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SANS CHANGER

# INQUIRY

INTO

# THE RELATION

OF

# CAUSE AND EFFECT.

BY

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# PREFACE

TO THE

# THIRD EDITION.

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THE Essay which follows is now presented to the lovers of Metaphysical Disquisition in a form so much enlarged and altered, as to constitute almost a New Work. When originally written, with the view of giving some satisfaction to the public mind, on a subject of obscure and difficult controversy, to which peculiar circumstances had attracted a very general interest, it was limited, as much as possible, to an examination of the theory on which the controversy had taken place. In the Second Edition, I ventured

to take a wider range, and to add such reasonings and reflections, as seemed necessary to elucidate some of the questions of greatest difficulty, in the philosophy of Cause and Effect. At the same time, however, many questions relating to that most comprehensive of subjects, were left wholly unexamined, and some others only briefly noticed, which deserved a much fuller discussion, both from their own importance, and from the light which they throw on Physical Inquiry in general.

In the present Edition, I have endeavoured to supply these deficiencies; and, with the hope of rendering more easily intelligible what has appeared intricate, as I conceive, chiefly because it has been long perplexed in the Schools, by a mysterious phraseology and the verbal inconsistencies of contending theorists, I have separated the view of the

Philosophy of Causation, as a statement of simple philosophic truth, from the critical view of the doctrine of that bold and original Thinker, to whose ingenuity the abstract science of the connexion of the sequences of events has been principally indebted; and to the examination of whose opinions on the subject, as partly just and partly erroneous, the exposition of the abstract philosophy itself, which was treated before with constant reference to those opinions, might seem, in the former editions, to have been considered as subordinate.

If, in that last portion of my Work, which is now devoted to the review of Mr. Hume's theory of our notion of Power, the criticism on his metaphysical style be less favourable, than the general opinion with respect to it, that has stamped it with a character of excellence, the justness of which it may now

seem almost presumptuous in a single individual to question, I trust it will not be supposed to have arisen from any wish of detracting from the reputation of that eminent philosopher. The talents which he undoubtedly possessed, were of so high a rank, that he may well bear to be estimated according to his real merit; and it would be as absurd to deny his acuteness and subtlety, and often, too, the easy graces of his composition, as it is unnecessary for his fame, to assert, that he is physically and logically faultless, in his mode of inquiring into the abstract truths of science, or of exhibiting to others with exactness the results of his inquiry. It is, indeed, scarcely possible to imagine a more convincing proof of that want of precision, which I have ventured to censure, in his method of analysis and in his metaphysical language, than the fact,—if, on examination,

it be found to be a fact,—that from the first appearance of his Inquiries on this subject till now, he has been universally believed to maintain a negative theory of Power, which is not merely altogether different from the real doctrine of his work, but is in direct contradiction to the great argument which pervades it.

In the theory of our notion of the relation of Cause and Effect, which the following pages are intended to develope, I am aware, that to minds unaccustomed to philosophical analysis, and particularly to those who have been in the habit of attaching importance to some mysterious but insignificant phrases, the simple doctrine itself, and its equally simple phraseology, may appear an unwarrantable innovation on the received opinions, and language. But I flatter myself, that, after reflecting on what is truly

meant, in those received opinions, and in the general language on the subject, they will discover, that the innovations are rather on what has been unintelligible before, than on what has been truly understood; and that every thing which has been of any real value, in the ancient and well-accredited phrases, is retained in the few simple terms of the doctrine which is now submitted to their attentive review.

The very simplification of the language itself, in which we are accustomed to think of the abstract relations of things, is, as it appears to me, one of the most important contributions which metaphysical analysis is occasionally able to make to the Philosophy of Physical Inquiry,—that highest and noblest logic, which, comprehending at once our intellectual nature and every thing which is known to exist, considers the mind in all

its possible relations to the species of truths which it is capable of discovering. To remove a number of cumbrous words is, in many cases, all that is necessary to render distinctly visible, as it were to our very glance, truths which they, and they only, have been for ages hiding from our view. The distinction of Efficient and Physical Causes, for example, is one which has confused the notions of philosophers of every Age: and, if I succeed in making intelligible the illusion on which this distinction has been founded, though I should succeed in nothing more, I may still venture to flatter myself, that my Work will not be without influence on the progress of future inquiry.

It is no small part of science, to be well acquainted with its real boundaries; but it is necessary also to know, what it is which

truly exists within these boundaries, and what it is which is only fabled to exist. As long as any mysterious connexion is supposed between the phenomena, that are taking place at every moment before us, the mind must, from its very nature, be curious to investigate that ever-present though mysterious tie; nor will the simple assurance, that the discovery is impossible, be sufficient to destroy the curiosity, and thus to prevent the investigation that would vainly seek to gratify it. It is most satisfactory, therefore, to know, that the invariableness of antecedence and consequence, which is represented as only the sign of causation, is itself the only essential circumstance of causation; that in the sequences of events, we are not merely ignorant of any thing intermediate, but have in truth no reason to suppose it as really existing, or, if any thing intermediate exist, no

reason to consider it but as itself another physical antecedent of the consequent which we knew before; and that this simple theory, far from being in opposition to the sublime doctrines of Religion, tends, on the contrary, to make those great doctrines at once more intelligible and more sublime,—by simplifying the analogies of human order and volition, from which alone we have been able to rise to the conception of any higher Power, and by destroying that supposed connecting link between the antecedent will of the Deity and the consequent rise of the World, which, if it be not greater than the Creating Will, must at least seem to divide with it the grandeur and the glory of the Magnificent Effect.

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# INQUIRY,

*&c. &c.*

## INTRODUCTION.

In every inquiry into the successions of phenomena, whether of matter or of mind, there is one relation, on the truth of which the inquirer always proceeds, and which he must believe, therefore, to be as extensive as the appearances of the material world that come beneath his view, and the feelings of which he is conscious.

This universal relation is that according to which events are classed in a certain order, as reciprocally causes and effects; and since the sole object of every physical investigation of the changes which nature exhibits, is the ascertainment of the particular phenomena which admit of being thus ranked together, it is surely of the utmost consequence, for precision

of inquiry, that he who is to prosecute it should have clear notions of the relation itself which it is to be his labour to trace, and accurate definitions of the import of the terms which he is to employ for expressing it, in every stage of his continued search.

It has happened, however, unfortunately, in this case, that the notions which should have been clearest, and the terms of which it was most important to fix the meaning, have been allowed to remain peculiarly vague and obscure. There are scarcely any words connected with his inquiries, of which a philosopher would be more perplexed, if he were to endeavour to state accurately the meaning, than the very words that express a relation, which he is yet at every moment endeavouring to detect and evolve.

To remove, in some degree, this darkness, is the object of the following pages; in which I shall endeavour, in the *first* place, to fix, what it is which truly constitutes the relation of Cause and Effect;—in the *second* place, to examine the sources of various illusions, which have led philosophers to consider it as something more mysterious;—and, in the *third*

place, to ascertain the circumstances in which the belief of this relation arises in the mind.

In these views, the whole philosophy of power or causation appears to me to be comprised; but, in consequence of the very important lights which some of Mr. HUME's speculations have thrown on it, and, still more on account of the misconceptions which have universally prevailed with respect to the extent of his scepticism on this subject, I have thought it necessary to add, in a *fourth* part, some remarks on the errors of his doctrine itself, and on the errors of those who have ascribed to him a very different doctrine.

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# PART FIRST.

## OF THE REAL IMPORT OF THE RELATION OF CAUSE AND EFFECT.

# PART FIRST.

## SECTION I.

The philosophy which regards phenomena as they are successive in a certain order, is the philosophy of every thing that exists in the universe.

The world is one mighty system of changes. The great masses,—the atoms which compose them,—whatever is destitute of organization, as much as the organized beings, that are vegetating, or living, or dying,—all are the subjects and exhibiters of unceasing variety. What seems to our eyes to be rest, is continued motion. There is not a particle of the planet on which we dwell, that continues in the same point of space during the instant in which we strive most rapidly to think of it. Life and

death, as far as the same identical mass is concerned, are dissolution alike; or rather, in the same space of time, there is a more varied decomposition while we live, than when we die. In the internal world, though the phenomena are of a different order, there is a variation of them as perpetual. At every moment of our consciousness, some sensation, or thought, or emotion, is beginning in the mind, or ceasing, or growing more or less intense; and if the bodily functions of life continue only while the particles of the frame are quitting one place to exist in another, the functions of the spirit, which animates it, may be said as truly to subsist only by the succession of feeling after feeling.

The great character of all these changes, however, is the regularity which they exhibit; a regularity, that enables us to accommodate our plans, with perfect foresight, to circumstances which may not yet have begun to exist. We observe the varying phenomena, as they are continually taking place around us and within us, and the observation may seem to be, and truly is, of a single moment; but the knowledge which it gives us is far more

extensive: it is, virtually, information of the past and of the future, as well as of the present. The change which we know, in the actual circumstances observed, we believe to have taken place as often as the circumstances before were similar; and we believe also that it will continue to take place as often as future circumstances shall, in this respect, have an exact resemblance to the present. What we thus believe is always verified by subsequent observation. The future, when it arrives, we find to be only the past under another form; or, if it seem to present to us new phenomena, we do not consider these as resulting from any altered tendencies of succession in the substances which thus appear to be varied, but only from the new circumstances in which the substances themselves have been brought together;—circumstances in which, if they had existed before, we have no doubt that they would have exhibited phenomena precisely the same.

We are truly, then, prophets of the future, while we may seem to be only observing what is before us, or remembering what has been formerly observed; and, in whatever way this

prophetic gift may have been conferred on us, it must be regarded as the most valuable of all gifts, since, without it, every other gift would have been profitless. In vain might Nature, at every moment, pour around us the riches of her bounty, if we were to remain in perpetual ignorance of the uses of the wealth which was thus profusely lavished on us; and to know its uses, we must know what it is capable of affording for our accommodation at a time that is, as yet, unexisting. The world is not a resting-place of a moment—it is the home of many generations for the many long years of their mortal life; and for the purposes of that life, it is fitted, in magnificent abundance, with what is necessary for sustenance, for shelter, for the prevention of many pains, and the enjoyment of innumerable pleasures: but if, when ease or pleasure at any moment followed the casual introduction of a new object, we had no other impression of relation than of a priority and subsequence that were limited to that particular moment, and had no belief, therefore, that the ease or delight would be renewed, as often as in similar circumstances we should avail ourselves of the presence of the object

which had before been attended with the gratifying result, it is evident that, in the midst of a thousand means of luxury or alleviation, we might lose as much enjoyment, and suffer as much pain, as if the present means themselves, which required only a little voluntary adaptation on our part, had been wholly withheld. It is our faith itself which, in a great measure, makes the surrounding objects what they truly are to us, by rendering permanent, in our voluntary use of them, what otherwise might have seemed to pass away in the moment in which we had chanced to be under their influence.

It is not to science only, then, but to all the practical arts of life, and consequently to the preservation of life itself, that the faith is essential which converts the passing sequences of phenomena into signs of future corresponding sequences. In whatever manner it may arise, and whatever circumstances may or may not be necessary for giving birth to it, the belief itself is a fact in the history of the mind which it is impossible to deny, and a fact as universal as the life which depends on it.

It is this mere relation of uniform antece-

dence, so important and so universally believed, which appears to me to constitute *all* that can be philosophically meant, in the words *power* or *causation*, to whatever objects, material or spiritual, the words may be applied. If events had succeeded each other in perfect irregularity, such terms never would have been invented; but when the successions are believed to be in regular order, the importance of this regularity to all our wishes, and plans, and actions, has, of course, led to the employment of terms significant of the most valuable distinctions which we are physically able to make. We give the name of *cause* to the object which we believe to be the invariable antecedent of a particular change; we give the name of *effect*, reciprocally to that invariable consequent; and the relation itself, when considered abstractly, we denominate *power* in the object that is the invariable antecedent,—*susceptibility* in the object that exhibits, in its change, the invariable consequent. We say of fire, that it has the *power* of melting metals, and of metals, that they are *susceptible* of fusion by fire,—that fire is the *cause* of the fusion, and the fusion the *effect* of the application of fire; but in all this

variety of words, we mean nothing more than our belief, that when a solid metal is subjected for a certain time to the application of a strong heat, it will begin afterwards to exist in that different state which is termed liquidity,—that, in all past time, in the same circumstances, it would have exhibited the same change,—and that it will continue to do so in the same circumstances in all future time. We speak of two appearances which metals present—one before the application of fire, and the other after it; and a simple but universal relation of heat and the metallic substances, with respect to these two appearances, is all that is expressed.

A *cause*, therefore, in the fullest definition which it philosophically admits, may be said to be* *that which immediately precedes any change, and which, existing at any time in similar circumstances, has been always, and will be always, immediately followed by a similar change.*† Priority in the sequence observed, and invariableness of antecedence in the past and future sequences supposed, are the elements, and the only elements, combined in the notion of a

* Note A. † Note B.

cause. By a conversion of terms, we obtain a definition of the correlative *effect;* and *power,* as I have before said, is only another word for expressing abstractly and briefly the antecedent itself, and the invariableness of the relation.

The words *property* and *quality* admit of exactly the same definition; expressing only a certain relation of invariable antecedence and consequence, in changes that take place on the presence of the substance to which they are ascribed. They are strictly synonymous with *power;* or, at least, the only difference is, that *property* and *quality,* as commonly used, comprehend both the *powers* and *susceptibilities* of substances,—the powers of producing changes, and the susceptibilities of being changed. We say equally that it is a property or quality of water to melt salt, and that it is one of its qualities or properties to freeze or become solid on the subtraction of a certain quantity of heat; but we do not commonly use the word power in the latter of these cases, and say that water has the power of being frozen. This is, indeed, what Locke, and many other writers, before and after him, have expressed by the phrase *passive power,* in contradistinction from what

they term *active power:* but since Power, in general language, is confined to the producer of change, it appears to me less awkward, and more accurate, to limit the application of it in philosophy also to substances, the existence of which, in certain circumstances, is immediately *antecedent* to a change in another substance, and to employ the word Susceptibility with reference to the *consequent* change, in speaking of the substance itself in which the change takes place.

With this difference, which may or may not be admitted, and with this difference only, *power*, *property*, and *quality*, are in the physical use of these terms, exactly synonymous. Water has the *power* of melting salt;—it is a *property* of water to melt salt;—it is a *quality* of water to melt salt:—all these varieties of expression signify precisely the same thing,—that, when water is poured upon salt, the solid will take the form of a liquid, and its particles be diffused in continued combination through the mass. Two parts of a sequence of physical events are before our mind; the addition of water to salt, and the consequent liquefaction of what was before a crystalline solid. When

we speak of all the powers of a body, we consider it as existing in a variety of circumstances, and consider, at the same time, all the changes that are, or may be, in these circumstances, its immediate effects. When we speak of all the qualities of a body, or all its properties, we mean nothing more, and we mean nothing less. Certain substances are conceived by us, and certain changes that take place in them, which, we believe, will be uniformly the same, as often as the substances of which we speak exist in circumstances that are exactly the same.

The powers, properties, or qualities of a substance, are not to be regarded, then, as any thing superadded to the substance, or distinct from it. They are only the substance itself, considered in relation to various changes that take place when it exists in peculiar circumstances. An abstract general term of this sort is of great use; because, without it, it would be necessary to enumerate all the substances in which changes take place, on the introduction of the particular substance of which we speak. But it is of use, only as other general terms are of use,—such as Man, Quadruped, Animal; —not because it denotes any new substance,

or new quality, distinct from the particular substances or qualities already known and named, which it comprehends and briefly expresses, but because it does thus comprehend and briefly express them. We might convey the same information, by enumerating all the individual objects comprehended in a general term, and stating the circumstances of resemblance which have led us to class them together. But this enumeration, which would not be very easy in any case, would be insupportably tedious in all; and the abstract term, which, even though it had no other advantage, must at least save us from a great deal of trouble, is therefore to be valued very highly for the convenience which it affords.

There is, however, one great inconvenience which attends the use of all abstract terms,—that, when they have become very familiar, we are apt to forget that they are mere abstractions, and to regard them as significant of some actual reality. The history of the errors, not of the unreflecting multitude only, but of philosophers themselves, is, in a great measure, the history of this very species of error, as diversified in a thousand forms of prejudice and

superstition. But there is, perhaps, no form of the error which has had so universal and so fatal an influence in misdirecting inquiry, even where sages have been the inquirers, as that which relates to Power and its various synonymes. The powers of a substance, which, as I have said, are significant of nothing distinct from the substance itself and the other substances, in which its presence, in certain circumstances, is the antecedent of some change, but are only a shorter mode of expressing all these substances, whatever they may be, and all the changes, whatever they may be,—have been supposed to be something very different, and most mysterious; at once a part of the antecedent, and yet not a part of it; an intermediate link in a chain of physical sequences, that is yet itself no part of the chain, of which it is, notwithstanding, said to be a link.

Such is the confused image with which, not the vulgar only, but philosophers, have been content, as often as they have thought of Power. It is an error exactly similar to that which long prevailed with respect to Form, as something distinct from Matter itself; of the co-existence

of whose parts, in seeming continuity, it is merely the verbal expression. Nobody now supposes, that the forms of bodies are any thing but the bodies themselves, considered in the relation which their parts bear to each other in space. But, for many ages, a sort of mystery was supposed to hang over the phrase, as if it were significant of some wonderful property of matter, that might account for all its other properties. What *substantial forms* once were, in general misconception, *powers, properties, qualities,* now are. In the one case, as much as in the other, a mere abstraction has been converted into a reality; and an impenetrable gloom has been supposed to hang over Nature, which is only in the clouds and darkness of our own verbal reasoning.

The *substances* that exist in Nature, are surely *every thing* that has a real existence in Nature; for they comprehend the Omnipotent himself, and all his living and inanimate creatures. In the wide variety of these, there may be a susceptibility of various changes in particular circumstances, presenting sequences of phenomena, regular or irregular; but in the sequences themselves, whether regular or irre-

gular, there cannot be any thing more than the substances that exist in them; unless, by a monstrous species of realism, we believe the words which we have invented to express a mere feeling of relation in our own mind, to have a sort of physical existence that is at once independent of us, and of the objects which, on account of that feeling of relation, we have classed together. A is immediately followed by B, which is immediately followed by C;—the three phenomena are observed by us in this order of succession; and in whatever manner the belief may arise, which in the present stage of inquiry I am not examining, we believe that A, in the same circumstances, will be always followed immediately by B, and B as immediately by C. There is a train, in short, — and a train which, in its separate parts, is believed to be uniform,—of antecedents and consequents. But, whatever substances may constitute A, B, and C, in the successive phenomena, these substances are all of which the successive phenomena themselves are composed. The power of A to produce B, and the power of B to produce C, are words which we use to express our belief that A

will always have B for its invariable consequent, and B for its consequent as invariably the third phenomenon in the sequence; but they express nothing more than this belief, and, with the exception of our own mind, in which the belief has arisen, certainly do not express the existence of any thing which is not itself either A, B, or C. The qualities of substances, however we may seem verbally to regard them as separate or separable, are truly the substances themselves, considered by us together with other substances, in which a change of some sort is consequent on the introduction of them. There are not substances, therefore, and also powers or qualities,* but substances alone. We do not add greenness to the emerald, or yellowness to gold, or blueness to the bright vault of the sky, or darkness to the vapoury masses that occasionally overshadow it; but the emerald, the gold, the sky, the clouds, affect our vision in a certain manner. They are antecedents of sensations that arise in us; and we believe that in similar circumstances they will always continue to be antecedents of similar feelings. If no sensations of this sort were excited in us, all which

* Note C.

we term Colour in the objects would instantly cease. The sensible qualities, therefore, whatever they may be, and with whatever names we may distinguish them, denote nothing more than the uniform relation of antecedence of certain external objects to certain feelings which are their consequents. It is on account of this relation with which we are impressed, and of this relation alone, that we term the emerald green, gold yellow, the firmament blue, and the vapours that sweep along it in the tempest, lurid or gloomy.

If it be said that A, B, C,—the substances, which, as antecedents and consequents, I formerly supposed to be present in a sequence of phenomena,—are not themselves all that exist in these sequences, but that there is *also* the power of A to produce a change in B, which must be distinguished from A and B, and the power of B to produce a change in C, which must in like manner be distinguished from both B and C; is it not evident, that what is not A, nor B, nor C, must be itself a new portion of the sequence? X, for example, may have a place between A and B; and Y a place between B and C. But, by this supposed interposition of something which is not A, B,

nor C, we have only enlarged the number of sequences, and have not produced any thing different from parts of a sequence, antecedent and consequent in a certain uniform order. The *substances* that exist in a train of phenomena, are still, and must always be, the whole constituents of the train. But B is, by supposition, no longer the immediate consequent of A; it is the consequent of X, a new antecedent interposed, which is itself a consequent of the presence of A. Instead of the order A, B, C, there is now the wider order A, X, B, Y, C; but there is still only a series of existing things; whether the number of these, and the consequent order of changes that take place, be greater or less. We may strive to think of the phenomena of nature in every possible light; but, when we regard them as successive to each other, we can think of nothing more than the multitude of substances which constitute what we term Nature, — presenting indeed, in different circumstances, different appearances, in an order which we believe to be regular, but, in all that variety of appearances, existing as one great whole, without addition or diminution.

## SECTION II.

In the view which has now been taken of the successions of phenomena, it is of the utmost importance, on account of the universal misconception of philosophers on the subject, to have constantly in mind, that the sort of antecedence which is necessary to be understood in our notion of power or causation, is not mere priority, but invariable priority. We do not give the name of cause to that which we suppose to have once preceded a particular event, but to that which we believe to have been in all past time, as much as in the present, and to be equally in all future time, followed, uniformly and immediately, by a particular change, which we therefore denominate its effect.

In the unbounded field of nature, so many co-existing series of phenomena are constantly

taking place, that the presence of one object, in the particular circumstances in which it would of itself give rise to one phenomenon, may be the casual antecedent of innumerable phenomena, the effects of the presence of other co-existing objects. Each series of phenomena may be perfectly regular, if we consider its parts alone; but it does not therefore follow, that all the series must themselves have a mutual connexion that is invariable. It is of the separate series, accordingly, that we think, when we speak of causes and effects; and we constantly understand, in these terms, a priority and subsequence, that are not limited to the particular moment of any single observation.

Power is this uniform relation, and nothing more. Phenomenon after phenomenon is constantly passing before us; but all which is presented to us, and all which truly exists, in the sequences of phenomena, is the series of antecedents and consequents that form the train,—series, which we observe only at particular moments, but which we believe to have a regularity, to which it is impossible for our imagination to fix any limit in time.

That power is not any thing distinguishable

from the objects themselves, which exhibit in succession those diversities of appearance that are termed by us the phenomena of nature,—but is only a word expressive of their order in the sequences of phenomena, as uniformly antecedent and consequent,—is a doctrine which, I am aware, can scarcely fail to appear, when first stated, an unwarrantable simplification: for though an inquirer, under the influence of former habits of thought, or rather of former abuse of language, may never have clearly conceived in power any thing more than the immediate sequence of a certain change or event as its uniform attendant; it would indeed be wonderful, if the very habit of attaching to it many phrases of mystery, should not have led him to believe, that in the relation itself, independently of those phrases, there must be something peculiarly mysterious. But the longer he attends to it, and the more nicely and minutely he endeavours to analyse it, the more clearly will he perceive, that all which he has ever understood in the notion which he has been accustomed to express with so much pomp of language, was the mere sequence of a certain change, that might be expected to

follow again, as immediately, every recurrence of the same antecedent, in the same circumstances. When a spark falls upon gunpowder, and kindles it into explosion, every one ascribes to the spark the power of kindling the inflammable mass. But when such a *power* is ascribed, let any one ask himself, what it is which he means to denote by that term, and without contenting himself with a few phrases that signify nothing, reflect, before he give his answer; and he will find, that he means nothing more than this very simple belief,—that, in all similar circumstances, the explosion of gunpowder will be the immediate and uniform consequence of the application of a spark. The application of the spark is one event; the explosion of the gunpowder is another; and there is nothing in the sequence but these two events, or, rather, nothing but the objects themselves, that constitute what we are in the habit of terming Events, by the changes of appearance which they exhibit. When we say to any one, that, if a lighted match fall on a heap of gunpowder, the explosion of the heap will be sure to follow, our meaning is sufficiently obvious; and, if we

have perfect certainty that it is understood by him, do we think that he would receive the slightest additional information, in being told, that the fall of a match, in such circumstances, would not only be invariably followed by the explosion of the gunpowder, but that the lighted match itself would *also*, in such circumstances, be found uniformly to have the power of exploding gunpowder? What we might consider in this case, as new information, would verbally indeed be different; but it would truly be the old information, and the old information only, with no other difference than of the words in which it was conveyed.

This test of identity appears to me to be a most accurate one. When a proposition is true, and yet communicates no additional information, it must be of exactly the same import as some other proposition, formerly understood and admitted. Let us suppose ourselves, then, to know all the antecedents and consequents in nature, and to believe, not merely that they have once or repeatedly existed in succession, but that they have uniformly done so, and will be found uniformly to recur in similar sequence; so that, but for the intervention of the Divine

will, which would be itself in that case a new antecedent, the same consequents may be always expected after the same antecedents, whenever the future, in any of the circumstances that constitute a sequence of events, exactly resembles the present. If an effect be something more than what invariably follows a particular antecedent, we might, on that supposition, know every invariable consequent of every antecedent, so as to be able to predict, in their minutest circumstances, what events would for ever follow other events; and yet have no conception of power or causation. We might know that the flame of a candle, if we held our hand over it, would be instantly followed by pain and burning of the hand,—that, if we ate and drank a certain quantity, our hunger and thirst would cease;—we might even build houses for shelter, sow and plant for sustenance, form legislative enactments for the prevention and punishment of vice, and bestow rewards for the encouragement of virtue;—in short, we might do, as individuals and citizens, whatever we do at this moment, and with exactly the same views; and yet, on the supposition that power is something different from that invariable

antecedence which alone we are supposed to know, we might, with all this unerring knowledge of the future, and undoubting confidence in the results which it was to continue to present, have no knowledge of a single *power* in the universe, or of a single *cause* or *effect*. To him who had previously kindled a fire, and placed on it a vessel full of water, with the certainty that the water, in that situation, would speedily become hot, what light into any supposed mystery of nature would be given, by telling him, that the fire had the power of boiling water; that it was the cause of the boiling, and the boiling its effect? And, if no additional information would in that case be communicated, then, according to the test of identity of propositions before stated, to know events as invariably antecedent and consequent, is to know them as causes and effects; and to know all the powers of every substance, therefore, would be only to know what changes or events would, in all possible circumstances, ensue, when preceded by certain other changes or events. It is only from a confusion of casual with uniform antecedence, that power can be conceived to be something different from that

invariable relation; for it is impossible to form any conception of it whatever, except merely as *that which has been, and is, and will be constantly followed by a certain change.* This belief of past, present, and future similarity of sequence, we may express in many varieties of phrase; but it is our language only which we can vary, and not the conception or notion which we wish it to communicate.

## SECTION III.

With respect to the phenomena of matter, it may perhaps be allowed, that the reasoning of the former Sections is just;—that we perceive only a number of masses, in which changes take place in succession;—and that when we speak of the powers of those masses, therefore, we speak only of a certain invariable regularity of sequence, in the changes which they exhibit. When, for example, in any sequence of phenomena of the external world, we say that A is the cause of B, it may be allowed, that we mean only that A is followed by B, has always been followed by B, and, as we believe, will be always followed by B. We speak not of mere priority, in a single case, but of invariable priority; and believing that A never will be found without the instant sequence of B, we can imagine nothing more, in all the verbal distinctions,

that are employed by us to denote that uniform relation. We may say, that B is not merely the invariable consequent of A, but also its effect,—that A is not merely the invariable antecedent of B, but also its cause,—and that there is not merely a relation of invariable antecedence and consequence of one to the other, but also a relation that is to be termed Power. We may use all these words, indeed, and we may alter and multiply them in various ways; but, if we say simply that A will invariably have B for its immediate consequent, we say exactly the same thing.

This sameness of meaning, in the various phrases that appear to me to be significant only of uniformity of order of succession, may be allowed to be just with respect to matter; and yet it may perhaps be maintained, that there is a difference in the case of the mental phenomena, which renders these more than a train of antecedents and consequents, and power, therefore, something more than mere antecedence, however uniform.

The arguments, already urged, to shew that, in a sequence of causes and effects, there cannot be any thing more than the antecedents

and consequents themselves, seem to me, indeed, to be equally applicable to phenomena of every class; but, to obviate the supposed objection, let us consider more particularly the phenomena of that world from which it is drawn.

It will be admitted, that, in mind as much as in matter, power must always be relative to a change of some sort. In every case, in which it is ascribed, whatever more may or may not be implied in the reference, it is always supposed, that, in certain circumstances, a change will take place, which would not take place but for the power of which we speak, or some other co-existing influence as immediate.

The changes, that are indicative of power in the mind, must be either in the body which is connected with it, or in the mind itself.

Let us consider, then, in the first place, the changes which take place in the bodily frame, in consequence of certain feelings of the mind.

That many of these changes imply nothing different, in the relation of power, from what we have traced in the phenomena of the material world, when the antecedents and consequents were alike corporeal, will probably be

admitted, without hesitation, by all who admit the justness of the view which has been given of those external phenomena. When we blush from shame, or sigh in languid dejection, or weep under the influence of sudden grief, or lasting misery; and when many of the internal bodily functions are quickened, or retarded, or variously modified, by prevailing passions; it will be allowed, that the connexion of mental and bodily changes is of a kind very similar to the relation of antecedence, that is supposed in phenomena purely material. But there are other bodily changes dependent on states of the mind. We have muscles that are obedient to our will. We wish to move our limbs; and they move at our bidding. In this case, it will perhaps be said, we are conscious of a different species of power; and it is necessary that the diversity, if there be any, should be explained, before so simple a theory of power can deserve to be admitted.

We are indeed conscious of a difference of power, or, to speak more accurately, we are conscious of a different antecedent, when we move our limbs spontaneously, and when we merely blush or weep. But the difference is

in the nature of the prior feeling itself, and in this alone; not in the relation which it bears to its consequent. The antecedent is certainly different; for we blush and weep when there is no desire of blushing or weeping; and, except in some few cases, in which nature seems to have endowed individuals with a more than ordinary power of exquisite simulation, the mere desire of exhibiting those graceful signs of modesty or pity would be of little avail, if there were no real shame, nor real grief, of which feelings alone the blush and the tears are consequents. They arise, when we have had no foreknowledge that they were in the instant about to arise. But when we voluntarily move our hand, the antecedent is our will or desire to move it; and we have perfect foreknowledge that the motion is immediately to take place. If we analyse, however, with sufficient accuracy, the voluntary movement, as a compound phenomenon of mind and matter, what do we discover? A sequence, as in the other case, and nothing more. There is, in the first place, a desire to move the hand. This is one phenomenon. There is then the motion of the hand,—that is to say, the contraction

of certain muscles,—which is another phenomenon; and we believe that, in similar circumstances of health and freedom from constraint, the motion of the hand will always be the consequent of the antecedent will to move it. We have got, as before, a sequence of one event after another event, and a sequence which we believe to be uniform; but the sequence itself, and the belief of its uniformity, are all which our analysis of the compound phenomenon presents. It is true, that one of the parts of the sequence is a feeling of the mind, and another part of the sequence a motion of our bodily frame; but we are not examining in what manner the Divine Author of our being has united substances that may seem in themselves to be little congruous: we are considering only the phenomena that result from this union, as they are capable of affording us a notion of power; and, when we consider them in this respect, in all their reciprocal antecedences and sequences, we discover nothing that differs from the relation of uniform proximity in time, which we have traced, or felt, in the changes of the material world.

When I say that I have mentally the power of moving my hand, I mean nothing more than

that, when my body is in a sound state, and no foreign force is imposed on me, the motion of my hand will always follow my desire to move it. I speak of a certain state of the mind, as invariably antecedent, and a certain state of the body, as invariably consequent. If power be more than this invariableness, let the test be repeated which I used in a former case. Let us suppose our only knowledge and belief, with respect to the muscular contraction, to be, that the motion of the hand has followed, does follow, and will uniformly follow, the will to move it. In these circumstances, would our knowledge of this particular phenomenon be less perfect than now; and should we learn any thing new, by being told that the will would not merely be invariably followed by the motion of the hand, but that the will would also have the power of moving the hand;—or would not the power of moving the hand be precisely the same thing as the invariable sequence of the motion of the hand, when the will had been immediately antecedent?

A distinction which has been made of will and desire, implying, in what is termed Volition, a sort of compound influence of desire, and of

something more mysteriously indefinable, has probably aided in some measure the misconception, by which, in our mental command over our bodily organs, we are supposed to exercise a power that is different, not in species only, but in kind, from the antecedences which we trace in the external universe.

The number of desires of which the mind is susceptible, are as various as the objects of supposed good unpossessed. Of these, however, only a small number relate to immediate motions of the body, which are performed, sometimes as being directly agreeable in themselves, but much more commonly as being instrumental to the attainment of some other good, the object of some wish of a different species, which admits of being gratified only by the intervention of these bodily movements. We move our hands, our feet, in various exercises, sometimes for the pleasure of moving them; but we move them chiefly, because, in the whole wide variety of our wishes, there is not one to which their motion may not, in some way or other, be rendered subservient. There is an agreeableness, in many cases, in the motion itself; and there is a secondary, but far more important,

and more general agreeableness, which in the greater number of cases it derives from its tendency to further the attainment of some other agreeable object. The motion then is directly, or indirectly, and often in both these ways, a source of pleasure, and, like every thing else that is pleasing, may become the object of a wish; though, of course, if the motion itself be instantly consequent, the wish must be as brief as the interval of less than a moment, and may scarcely, therefore, when we strive to look back on it, seem worthy of the name.

These brief feelings, which the body immediately obeys,—that is to say, on which certain bodily movements are immediately consequent,—are commonly termed Volitions; while the more lasting wishes, which have no such direct termination, are simply denominated Desires. Thus we are said to *desire* wealth, and to *will* the motion of our hand; but if the motion of our hand had not followed our desire of moving it, we should then have been said, not to will, but to desire, its motion. The distance, or the immediate attainableness, of the good, is thus the sole difference; but, as the words are at present used, they have served to produce a belief,

that of the same immediate good, in the case of any simple bodily movement, there are both a desire and a volition; that the will which moves the hand, for example, is something different from the desire of moving it,—the one particular motion being preceded by two feelings, a volition and a desire. Of this complex mental process, however, we have no consciousness;—the desire of moving a limb, in the usual circumstances of health and freedom, being always directly followed by its motion, whatever interval of opposition there may have been, in the motives or desires of more distant good, which preceded the desire of the particular muscular motions, as means of obtaining that distant good.

It is indeed only in such desires, as have no direct termination in the motions which are under our command, that the equilibrium or pause of motives is conceivable. The voluptuary may balance his love of pleasure with his love of health, and the ambitious man his love of power with his love of ease and security, because the desires of pleasure, and of health, and of power, and of ease, may exist long, separately, or together, having no immediate and invariable

effect to terminate them, and suggesting, therefore, occasionally, while they continue, different objects of thought, according to the casual associations of ideas: but, in the free and healthy state of the body, where there can be no lastingness of the desire of moving any part, to desire the motion of our hand is effectively to move it. The will to move a single finger, considered without reference to the subject muscles, as a feeling of the mind alone, differs not more from the desire of any trifling object of distant enjoyment, than our other desires relatively differ,—the desire of ease, for example, from the desire of power;—and if the finger, which we wished to move, had not been formed actually to move at our will, the ineffectual feeling itself would have been classed together with our other insignificant desires. It is not in any quality of our desires, therefore, but in that arrangement of the order of nature, by which certain corporeal changes follow certain desires, and follow them instantly, that the distinction of volitions and desires is founded:—as far at least as relates to our bodily movements; and the particular volition, whatever place it may deserve in the classification of our

feelings, precedes its particular muscular motion in no other manner, than any other change, material or mental, precedes the change which is second to it in the order of sequence.

But though it is thus apparent that the volitions, on which our bodily movements are consequent, are only short feelings of desirableness, which necessarily are not lasting, because they are immediately followed by the attainment of their object, there are circumstances, which it is not difficult to trace, that have led philosophers to consider the two affections of mind as essentially distinct;—and some of these it may be of importance to point out.

One of the chief circumstances is the confidence of instant sequence, which, in the case of voluntary motion, is combined with the desire. We desire wealth, but we do not on that account believe that it will follow; and the desire without the belief may continue ungratified, for years, and perhaps for all our life. We desire the motion of our hand, and know that the motion will follow;—and the motion does instantly follow. The volition, therefore, may be said to be a complex feeling, inasmuch as it is desire combined with belief of immediate

sequence of the object of the desire: yet the belief does not arise from any peculiar circumstance in the desire itself, but merely from the experience of the order of sequence, by which the desire has always been found to terminate in the particular motion; and in the case of sudden palsy, in which no motion follows this compound of desire and belief, the compound itself is exactly the same. The term *will*, in its application to a process that is partly mental and partly organic, is not denied to be a convenient term for expressing those desires which have instant termination in a muscular motion that is their object, to distinguish them from desires, which relate to objects not directly and immediately attainable, and therefore not accompanied with the belief of direct and immediate attainment: but still it must not be forgotten, that the mental part of the sequence, the momentary feeling, which exists in our consciousness alone, and ceases almost as soon as it arises, is a desire that differs not from our other desires, more than those others mutually differ.

The brief continuance of such wishes as are terminated almost in the very instant by the

motion that is willed, of course prevents that combination of other feelings, which seems to give a different character to our other desires. There is no deliberating pause, when as soon as the wish or feeling of the desirableness of a certain motion arises, the desired motion is the immediate result,—no choice of means, where no means whatever are requisite. Our desires, which are more lasting, because less speedily gratified, are complicated with innumerable images, that are incessantly mingling in them: but our will to move our hand is simple, because it is rapid; and the very simplicity and rapidity, in which it has little resemblance to our other wishes, make it appear to us as if it were scarcely of the same class of feelings.

Another circumstance, which has contributed in a very important degree to the mistake, is the universal habit of confounding the desire which immediately precedes muscular motion, with those other desires, by which it may have been itself preceded, and of considering the will in the process of comparison, as *co-existing* with the opposite desires, not simply as that desire, which *follows* the comparison and the consequent perception or belief of the greater good. We

are hence often said, inaccurately, to will in opposition to our desire, as if in the process there were only two feelings of the mind, a desire and a volition, so essentially different in their nature, that the will was the choice of what was not desirable. Thus, if any one be compelled to support a weight in his outstretched arm, under fear of a more painful punishment if he should draw it back, and experience, as in that situation he must soon experience, a degree of fatigue which is almost insupportable; if he still continue to keep his arm extended, he will be said, in the common language of philosophers, to *will* the very pain which he cannot be supposed to *desire*. But the direct object of his desire is not the motion of his arm; it is simply relief from pain: and the direct object of his continued will is not the continuance of pain; it is simply the extension of his arm. He knows, indeed, that relief from pain will be immediately procured, by drawing back his arm; but he knows also, that a severer punishment will follow that motion: and therefore, preferring the less pain to the greater, he directly desires or wills the continued extension of his arm, as what can alone preserve him from greater suf-

fering. If the direct object of his desire were not relief from pain, but the actual muscular motion which would bring down his weary arm, there can be no doubt that the motion of his arm would immediately ensue.

The chief error of philosophers who have made this distinction, evidently consists, then, in not analysing, with sufficient accuracy, the separate sequences of events, in a complicated process, and not considering, therefore, what are the feelings which are truly opposed to each other. "With regard to our actions,"—says Dr. Reid,*—"we may desire what we do not will, and will what we do not desire; nay, what we have a great aversion to. A man athirst has a strong desire to drink, but for some particular reason, he determines not to gratify his desire. A judge, from a regard to justice, and to the duty of his office, dooms a criminal to die, while, from humanity or particular affection, he desires that he should live. A man for health may take a nauseous draught, for which he has no desire but a great aversion. Desire, therefore, even when its object is some action

* Essays on the Active Powers of Man, Essay II. ch. i.

of our own, is only an incitement to will, but it is not volition. The determination of the mind may be not to do what we desire to do."

In all these instances adduced by Dr. Reid, his mistake consists in neglecting or forgetting that part of the process, in which there is a real opposition of desires, and supposing an opposition, in another part of the process, in which there really is none: for, in not one of the instances is there the smallest opposition in that particular desire, on which the action immediately depends, and which must, therefore, according to his own system, be denominated by him the Will. The determination of the mind never is, and never can be, to do what, in the particular circumstances of the moment, we do not desire to do. When we take a nauseous draught, there is a dislike, indeed, of the sensation which follows the motion, but there is no dislike of the motion itself, which alone depends upon our will, and which is desired by us, not from any love of the disagreeable sensation which follows it,—for a love of what is disagreeable would be an absurd contradiction of terms,—but from our greater dislike of that continuance of bad

health, which we suppose to be the probable consequence of omitting the motion. The desire of moving the hand and the muscles of deglutition,—or, to use a word which Dr. Reid would have preferred, the *will* to move them,—is a state of mind as different and as distinguishable from the dislike of bad health, as from the dislike of the draught. It is a new feeling, to which a wide view of many circumstances has given birth,—a desire, not of pleasure in the draught, but of less evil, in one of two unavoidable evils.

In like manner, a judge, who condemns a criminal to death, when, if he yielded to his humanity alone, he would spare him, does not will a single *action,* which he is not desirous of performing, whatever opposition there may have been in those primary desires, of which his secondary desire or will is not a part, but only the consequence. He has a desire of saving from death an unfortunate individual; he has a desire of the public good, and of acting in a manner worthy of his high station: both these desires exist previously to those that are termed his volitions, by which alone, in the muscular motions that follow them, he

dooms the criminal to death; the final will to utter the awful words of punishment, arising only from the belief of a greater good upon the whole, in the same manner as the desire of fame arises from the contemplation of fame, or any other desire from the contemplation of its object.

That what is termed the will, in this case, is a desire following directly another desire, is true: but it has this circumstance in common with many other desires, which rise one from the other, and are not considered as involving on that account any peculiar quality. The indolent sensualist, for example, who knows the extent of command over the various objects of luxurious accommodation which wealth confers, may have wishes as various as the luxuries of which he thinks; and the desire of any one of these may be *instantly* followed by the desire of that which he knows to be necessary for the gratification of it,—as instantly, as, when the very delicacy which his appetite has sought is placed before him, his will to extend his arm to it seems itself, in its quick subsequence, to be almost a part of the earlier desire of enjoying what is within his reach, so as to require only

the rapid intermediate effort. Nor is it of the slightest consequence to the distinction, that when we will to move our limbs, the muscular contractions, in which our volitions terminate, are objects of trifling good in themselves, and are desired chiefly, or only, as means of obtaining a more distant, but greater good: for this circumstance, also, of relation to a good that is not comprised in the direct object, our volitions have in common with many of our other desires. He is indeed a miser of no vulgar proficiency in avarice, who loves gold for its own sake alone: and though the love of fame be not that sole and universal passion, which it has been described by the satirist, we may be assured, that at least the greater number of the objects of our apparently selfish and luxurious wishes, which have no reference to the happiness of our fellow-creatures, and which are sought by us, in all the restless business of our lives, and changed and renewed, with an ever-varying desire of elegance and comfort, as if for our own personal enjoyment merely, are valued by us, not so much for the little direct enjoyment which we are to receive from them, as for the means, which they seem to offer, of

gratifying a prouder wish, by increasing, at however dear a cost, our estimation in the respect and regard of the society in which we live.

When we will certain motions, we will them, surely, because it is directly or indirectly agreeable to us that the motions should take place. We have a certain pleasing object in view; and our will, which, as I conceive, is only the desire of that pleasing object, resembles in this respect all our other desires, however much it may differ from them in the rapidity of its instant gratification. But though, antecedently to the motion of the hand, there were not simply that feeling of the desirableness of the motion, which I suppose to be all that precedes it, but two distinct feelings, a desire to move it, and a will to move it, still, whatever the ultimate feeling may be, and whatever name we may think necessary to give to it, we must remember that it is only another feeling in a train of feelings, and that, when we arrive at the bodily motion, which is its immediate consequent, we have a sequence and nothing more, precisely as if the desire and the will themselves were one. A certain feeling has arisen in the mind; a certain bodily change

is the consequence. We have a pair of phenomena, which we may believe to be uniform in their order of succession; but we discover nothing in the regularity that marks it as more uniform, or in any respect different from the invariableness of the sequences of the phenomena in the material world.

The theory of Power, then, seems to receive no additional light from a consideration of mental energy, as exhibited in the bodily movements that depend upon the will; for we find, as before, only a sequence of two phenomena, that are believed to be, in the same circumstances, uniformly antecedent and consequent. But the feelings of the mind are followed, not by bodily movements only; they are followed, also, by other feelings of the mind. We have antecedents and consequents, where the whole train is mental; and these, perhaps, may evolve a relation, that is closer, and more effective, than mere antecedence, however uniform.

When thoughts succeed thoughts, without any feeling of desire to modify them in accordance with it, no peculiarity of power is supposed in the sequence. It is supposed, only in changes that are dependent on the will,—

that is to say, in changes which are subsequent to a certain wish and determination of the mind.

It is not to a simple desire, that, in such a case, we give the name of Will, but to a desire combined with a deliberate preference, and often, too, with expectation of a particular result. We have previously considered different forms of good or evil. Some good appears to us greater upon the whole than others, or some evil less. We desire, therefore, the greater good, with the opinion that it is the greater good, or the less evil, with the opinion that it is the less evil; and, having so weighed or preferred, we are said to will the greater good, when the attainment of it seems to depend upon our choice, or the less evil, when, by submitting to it, we think that we can escape an evil that is greater. But, whatever may be the combination of judgment and desire and expectation, to which, in such a case, we give the name of Will, it is when the will already has existed, as one simple or complex state of mind, and some other state of mind is following it, that we are to consider the connexion which is supposed to be peculiarly effective. It

is effective indeed, in the only intelligible sense of that word, because a certain change is its consequent, which would not have taken place if the antecedent had been different; but, far from discovering any peculiar efficacy, we perceive nothing more than two phenomena, antecedent and consequent, in an order that may be equally uniform, but certainly is not more uniform than the sequences before considered.

So peculiarly mysterious, however, has this connexion been supposed to be, of the state of mind that is termed the Will, with the other states or affections of the mind, that, in the inability to conceive it distinctly, a sort of shadowy and indefinable empire has been assigned to our volition, as if the whole train of thought were, in some greater or less degree, directly under its control. A full examination of the errors of philosophers in this respect would lead me into too wide a field, comprehending, indeed, an analysis of all the intellectual functions; which I reserve as the subject of other works. In the mean time, however, a few remarks on some of the simpler forms of this mistake, may serve to illustrate the principle on which the general mistake is founded.

It is very evident, that, if the will had the power which it is supposed to exercise over the course of thought, it must consist either in causing the rise of certain conceptions, which otherwise would not have arisen, or in preventing the rise of certain conceptions, which otherwise would have arisen. To will directly the conception of any particular object is, surely, to have already the conception of that object; for, if we do not know what we will, we truly will nothing; and if nothing be willed, the images that arise after so strange a state of the mind as is supposed, may start up before us indeed, but they do not come at our bidding. As little do they come at our bidding, if, in willing them, we know what we will; for, in that case, they are already before us, at the very moment at which we order them to come before us. To will directly any idea, then,—as if it at once existed while we willed it, and yet did not begin to exist till after we had willed it,—is a contradiction in thought, and almost in terms; and not less absurd is it, to suppose that we can directly will the non-existence of any idea; that is to say, can will the state of mind to cease, which constitutes

the conception of any particular object. The longer such a supposed volition continues, the longer must the idea continue, which is involved in the very wish or will to banish it. That such a desire is felt, implies, that the image which we wish to banish, is one that is giving us lively uneasiness; and the effect of the desire, like that of every other species of emotion, is certainly not to render less, but more vivid, whatever images it comprehends. The more intensely, therefore, we may wish to get rid of a disagreeable idea, the more lively, we may be sure, and therefore the more permanent, must it become.

It is admitted, indeed, by many philosophers, that we have no such direct influence, as is supposed, over our trains of thought; but they maintain, that the conceptions or ideas, which we cannot will directly, we can yet will indirectly, by calling up other ideas, which we know to be connected with them.

Thus, if I wish to remember a piece of news, which was communicated to me by a friend, it is admitted, that I cannot call up directly that particular piece of news; but I am said to have the power of calling up ideas which I know

to have been associated with it in place and time,—the idea of the person, of the spot, of many little events that may have happened while we were standing together, and of other circumstances which were the subjects of conversation. Yet it is evident, that to will the renewal of any one of those ideas is to will that particular idea directly; and if I can effectively will the idea of the person, or of the spot, without any idea of the person, or of the spot, implied in my volition, I may as readily will at once the unknown idea, which is the object of my search. Indirect volition, then, is exactly the same thing as direct volition; or rather, it is a series of direct volitions, and cannot therefore be adduced with the view of getting rid of any inconsistencies, which may be implied in the direct volition of a particular idea unknown to us.

The true and simple theory of the voluntary recollection is to be found in the permanence of the desire, and the natural order of the associate ideas. I do not call up,—for it is not in my power so to produce,—the ideas of the person, of the spot, of the events that took place at the time, and of the various circumstances

more or less loosely connected, on which we conversed; but I have a continued desire of remembering something which was told me by my friend, at a certain time; and, during the continuance of this desire, the spot, the events, and other circumstances, rise according to the usual order of our spontaneous trains of thought. The conception of these can scarcely fail, at every moment, to suggest something which was said at the time. If it suggest that particular part of the conversation, of which I remember only that it was something which interested me, and which I wished therefore to be brought to my mind again, the desire of course ceases with the gratification of it, when I recognize what is thus suggested, as that which was the object of my obscure desire. If it suggest any other part of it, the desire, continuing, keeps before me the images of the person and the place, which may almost be said to be involved in the desire itself, and allows other images, associated with these, to arise, till I either remember what I wish, or the wish itself die away, in the hopelessness of gratification, or in the occurrence of new and more interesting objects.

In like manner, when we are supposed volun-

tarily to banish disagreeable reflections, we do not banish them directly by our will; for that, as I have shewn, is impossible: but, knowing that one idea suggests, without any will on our part, other ideas associated with it, we may voluntarily take up a book, with the hope of being led by it into a new order of thoughts, or give ourselves to any other occupation or pastime, which may induce trains of its own. In all this, there is nothing but the first step, which can be considered as voluntary; for, when the new train has begun, it has already relieved us, without our will: and that we are capable of this first step, in the will or effective desire, which precedes the muscular actions necessary for taking up a book, and fixing our eyes on its pages, or any other muscular actions which any other serious occupation or pastime requires, is not denied.

Such are the simplest instances of the supposed voluntary command over the train of thought; and, if the examination were extended to the more complex instances, the analysis of what is termed the Will would afford a similar result. In all, we should discover a desire, which, since every desire must be the desire

of something, involves of course some conception more or less shadowy or clear; and, during the continuance of this desire, a series of associate conceptions that rise, as any other ideas in our spontaneous trains of thought arise, in consequence of the mere pre-existence of other relative ideas. The lasting desire, and the primary conception involved in it, are thus sufficient to induce by suggestion many accordant images; and may be accompanied, as they usually are accompanied, with the belief, or hope, that, in the course of the varied suggestion, such images may arise, as will be most suitable for the object that was primarily and lastingly in view.

In the empire of the will over our trains of thought, when the complex feeling which we term *the will* is thus analysed, there does not seem to be any thing peculiarly mysterious. But, even though all the mystery that is supposed were really to hang about it, still it must be remembered, that, whether ideas be willed directly or indirectly, or produced in any other manner, for which it is possible to invent words; when the state of mind, that is supposed to be willed, does truly arise, there is in the process

of volition only a sequence of feeling after feeling. There is one feeling that is consequent, and there was another feeling that was antecedent. In the sequence of these, we may imagine the closest and most invariable proximity; but, assuredly, we do not discover a proximity that is closer or more invariable, than what is believed by us in the phenomena of the world of matter.

## SECTION IV.

In our examination of the phenomena of the mind as successive, we have considered its feelings, both as they are antecedent to motions of our bodily organs, and as, in trains more purely mental, they are the immediate antecedents of other feelings. In both cases, we have found only phenomena which occur in a certain order, and which are believed to have to each other a relation of proximity, that is not confined to the moment of any single sequence. If the relation of uniform antecedence and consequence, which we found to impress us universally in the phenomena of the external world, be, as I conceive, all that is meant in the words *power* or *causation,* we have found this to extend to the mind, but not to be more peculiarly applicable to it than to objects without;—and if power be something more

than this, we have not been able, in our examination of the mental phenomena, to discover what it is.

So different, however, has the nature of succession been considered, in the phenomena of mind and of matter, that on this difference has been founded a theory of power, which has met with very general acceptance. It has been asserted, that from mind alone we derive our notion of power; and that the notion which we thus acquire by the consciousness of our own exertion, is afterwards transferred to the apparent changes of matter.

If, indeed, the phenomena of matter had appeared to us as simple sequences, that did not impress us with belief of any future uniformity; or if, in the changes that take place in the mind itself, we were able to detect something more than the antecedence of certain feelings, and the subsequence of certain other feelings, as in matter we perceive the antecedence of one motion, and the subsequence of another motion; this theory might be allowed to have at least some ground of possible truth. But since we do not remember a time in which the phenomena of matter did not impress

us with belief of an order of succession, as close and invariable as any proximity which we can imagine in our trains of thought and desire, and since this proximity is all which we can discover in the order of the mental sequences, the doctrine, even though there were no difficulty in the supposed transfer itself, would be without the slightest ground in our experience.

Is the total want of a foundation in our experience, however, the only objection that can be made to such a doctrine? Let us consider, also, the nature of the transfer that is supposed.

It must be remembered, that what we call exertion, in our bodily operations, is nothing more, as we have seen, than the subsequence of muscular motion to the feeling, which we denominate desire or will; as magnetic action, in a process purely material, is the subsequence of the motion of iron to the approach of a loadstone. In the nature of the subsequence in the two cases there is no difference. We have in each case two phenomena, reciprocally antecedent and consequent, but we have no more; and the one antecedent is as little transferable as the other; for we have no greater

reason to ascribe desire to the loadstone, than to suppose the approach of a loadstone to have preceded our muscular motion. To say that we ascribe, not *desire*, but *power*, to the loadstone, is not merely to beg the question,—by assuming, without proof, that there is in the mental sequence a closeness of proximity, which is different from the mere uniformity of antecedence that is to be found in the changing phenomena of matter, and which admits, therefore, of being transferred to those phenomena; but it is also to say, that more is transferred, than is really felt in the sequence: for *power*, which has a relation to future cases, as well as to the present, is something more than the mere sequence of a single desire and a single motion, which is all that constitutes any particular exertion; and, if from one sequence any inference may be made, as to the recurrence of sequences, it may be made as much from the motion of iron, as from the motion of a limb. If what we feel be transferred to the magnetic phenomenon, it is evidently desire which we feel. Till the muscular motion have once taken place, it is desire alone; or if we suppose, that, even before the first exertion,

there is an instinctive expectation of the result, it is only desire, combined with belief, that the motion will follow: it is afterwards desire, combined with the knowledge that a muscular motion has been its consequence, and with belief that it will again be followed by the motion: but neither is the combination of belief and desire transferred to the loadstone, so as to endow it in our conception with life and conscious agency, nor, after magnetism has been observed, is there less knowledge of it, too, as a past event, nor less expectation of it as a future consequence. We do not believe with greater certainty that our volition will be followed by motion, than we believe that the approach of a magnet to iron will be followed by motion:—and what is there, then, which we can suppose to be extended from the one of these cases to the other? In both cases, indeed, the inference as to future similarity of event, is made from one general principle: but it is a principle which is common to all sequences, material as well as mental, and which, we have every reason to believe, would operate in the same manner, though man were wholly incapable of muscular exertion;—if, with

that incapacity, he could have the same power as now, of distinguishing all the varying changes of the universe without.

It is, perhaps, even too much authority, which Mr. HUME gives to this error, when he allows, that the *animal nisus*, which we experience, enters* very much into the vulgar idea of power. It seems to me, at least, equally probable, that the feeling of this animal nisus, though derived from cases in which the exertion may have eventually succeeded, enters largely into the vulgar idea of restraint, or difficulty, or want of power. But that the great and general error should have been adopted by philosophers, is peculiarly unaccountable; as it is impossible to attend to the common language of the science of mind, without perceiving its innumerable derivations from the analogies of power in the mutual agencies of material substances. The phenomena of mind succeed each other in a certain order; the phenomena of matter also have their peculiar order: but,

* "It must, however, be confessed, that the animal *nisus*, which we experience, though it can afford no accurate precise idea of power, enters very much into the vulgar inaccurate idea which is formed of it."—*Essays*, Vol. II. Note C.

were we to judge by the language of each, from which of the two sequences our notion of power is derived, the probability would seem on the side of the latter. It is only in poetry that wishes, and joys, and sorrows are ascribed to inanimate objects; while, even in common conversation, we never speak of the faculties and passions of the soul without a series of metaphors, borrowed from changes that take place in the objects around us. And, indeed, when we consider, not the language only, but the very abstractions and imaginations, of which theories are made, we discover innumerable attempts to materialize every operation of the mind, but very few attempts to spiritualize the operations of matter. How many hypotheses are there, that profess to be explanatory of sensation and thought, in which we hear of images, and impulses, and traces in the sensorium, of vibrations and vibratiuncles, of currents of animal spirits, electricity, galvanism! There is scarcely a single new generalization of phenomena of matter which have been long familiar to us, or a single power in matter inferred from the observation of new phenomena, which has not been immediately seized by philosophers,

and applied to mind; as if it were the great business of metaphysical science, to systematize the slight analogies which can be drawn from the material world, and thus to convert the metaphors, that might adorn our poetry, into grave expositions of philosophic truth.

That there is this tendency in the nature of man to animate and personify every object around him,—a tendency, to which we owe so much of the grace and delight of poetic language,—has, indeed, been sometimes adduced, as if it were a proof of general belief of the immediate agency of mind, in all the changes of the external universe. There have been mythological systems of the Heavens, in which the great orbs, that are incessantly rolling through space, were supposed to be under the continued guidance of regent Spirits; and Oreads, Dryads, and Naiads, under these or other names, have, in many countries, formed a part of more popular mythology. In such cases, however, the faith that is imagined is often nothing but the delight of a pleasing figure of rhetoric, or a gay pomp of worship, itself almost rhetorical, which may be consecrated, indeed, with priests, and altars, and sacrifices, yet, in these very solemni-

ties, is to be considered as little more than a lively prosopopœia. But, even in those cases, in which the personification is more than mere allegory and poetic embellishment, and involves real belief of the operation of Mind, it is easy to trace the source of the supposed mental agency, in circumstances that, in a rude state of philosophy, might well seem to mark the interposition of an extraordinary Spiritual agent.

In illustration of this principle, it must be remembered, that the local Divinities of classical superstition, like the Elves and other shadowy beings of our own mythology, are usually represented rather as inhabitants of certain districts, over which they preside, or in which they occasionally appear, when any great part is to be performed, than as connecting and carrying on all the regular and uniform natural processes, which are exhibited to our daily view. It is only where great and unusual phenomena occur, and no visible cause is discerned, that the immediate agency of Spirits is supposed. It is a *dignus vindice nodus,* and a God is, therefore, introduced; because mind, which is the only power that is itself altogether invisible, furnishes the only analogy to which recourse can be had.

When sounds, therefore, are heard from the mountain, the grove, or the stream, while around the hearer no blast is stirring; when a voice of many thunders cries aloud, and fire flashes from clouds, which, the very moment before, were one gloomy stillness, it is not wonderful, that the heart and knee of man should fall prostrate, as in the presence of a mighty Spirit. But this belief is the natural result of an analogical reasoning, which, in a certain rude state of physical science, is irresistible, and differs not, in the slightest degree, from a thousand other reasonings of analogy in physics, in which the cause supposed is not spiritual but material. It is confined to certain cases, in which the analogy of life is more striking than any other analogy, and is very different from that general theory, which would ascribe a living power to the production of every change. The Roman, who heard Jupiter thundering in the sky, and acknowledged that he reigned, saw and recognized an endless succession of material causes, in the more common spontaneous changes of nature, and in the daily arts of life; and, while in the public field of exercise, he drove the ball, or watched it as it

fell and rebounded from the earth, he never once imagined that a God was at all concerned in the operation.

The most probable source of the error, as relating, not merely to cases of inferred analogy, but to every instance of change in matter, is the continuance of apparent rest in bodies, when not under the influence of a manifest external force; in distinction from the seemingly spontaneous operations of life, when, after long rest, new motions seem to start upon us, without any influence from without, which our senses are capable of detecting. The rock, which, many ages ago, was swept from the mountain's side, remains still in the same spot of the valley that received it, and is scarcely distinguishable from the fragments which the desolation of yesterday has spread around it: while the locomotive power of animals, as exerted by fits of longer or shorter duration, renders visible to us the beginnings of motion from absolute rest; the whole train of vital changes being composed, partly of motions which are visible, and partly of feelings which are invisible, and the invisible feelings being neglected by us, in our consideration of the visible motions, which

appear at intervals only, though, in reality, they are parts of one continuous sequence. It has thus been usual for philosophers, by a very false distinction, to which their imperfect analysis has led, to term matter *inert*, as if capable only of *continuing* changes, and to distinguish mind as alone active, and capable of *beginning* changes. But the assumption of this quality is founded on the difference to which I have alluded, of the continued visibility of the train of changes in matter, while there is only a partial and indirect exhibition to our senses, of the train that is continued in mind. If the whole train could, in both cases, become visible to us, we should find, that no created mind is capable of beginning spontaneously a series of changes, more than any mass of created matter. All is only a continuance of changes, and often of mutual changes. If, without the intervention of matter, thought arise after thought, and passion after passion; as often, without the intervention of mind, does the motion of a few small particles of matter produce in other masses a long series of elemental motions. If mind often act upon matter, as often does matter act upon mind; and though matter

cannot begin a change of itself, when all the preceding circumstances have continued the same, as little, when all the preceding circumstances continue the same, is such a change possible in mind. It does not perceive, without the occurrence of an object to be perceived, nor will, without the suggestion of some object of desire. The truth is, that certain changes of mind invariably precede certain other changes of mind, and certain changes of matter certain other changes of matter; and also that certain changes of mind invariably precede certain changes of matter, and certain changes of matter invariably precede certain changes of mind. To say that mind produces *motion* in matter, while matter cannot produce *motion* in mind, is but an abuse of language: for motion, as an object of our perception, must be a state of some material thing. It might, in like manner, be said, that matter only is active, and that mind is inert, because it cannot produce in itself, or in other minds, that painful *sensation* of heat, which is immediately produced by the contact of a burning mass; or that many of the most powerful chemical solvents are inert, while another solvent alone is active, because,

from the use of that one solvent alone, a particular product can be derived. Though matter cannot produce motion in mind, it can produce sensation in it; and though mind cannot produce sensation in matter, it can produce in it motion. The changes produced by mind in matter, are, indeed, more obvious to the perception of others, and more directly measurable, than the changes produced by matter in mind: but it is the simple production of a change, not the nature of the change produced, which is essential to the argument; and of the ever-varying phenomena of the material universe, there is truly as little cessation, as of those which are most rapidly successive in mind. Even the apparent rest of matter, it must be remembered, is a sort of action, rather than repose. The particles of the seemingly quiescent mass are all attracting, and attracted, repelling, and repelled; and even the smallest indistinguishable element is modifying, by its joint instrumentality, the planetary motions of our system, and is performing a part which is, perhaps, essential to the harmony of the whole Universe of Worlds.

## SECTION V.

The successions of phenomena, whether spiritual or material, that have been as yet considered by us, are those which are exhibited by created beings, that have derived from a Mightier Energy all the qualities which they display. That original Energy itself, which, in our ignorance how to offer it a due homage of admiration, we can designate only by a title which expresses our ignorance of any limits to its sway, —The Omnipotent, who has made every thing around us what it is, and has given us a spirit susceptible not merely of the influences of external things, that render the soul itself a bright and ever-varying mirror of the universe in which it is placed, but of feelings of a nobler order, which reflect on that outward world a beauty, and glory, and sanctity, which no masses of earthly mould can possess,—the Power, to

which every secondary power is far less than a single ray to that orb which has never ceased to pour forth its dazzling flood, since the moment at which it was fixed in the heavens, to gladden nature, and be an emblem of more divine magnificence,—the Cause of causes, and Author of every thing which has been, and is, and is to be,—has not yet been considered by us, as distinguished from the works that image his invisible sovereignty.

The definition which has been given of power, then, it will perhaps be urged, however applicable it may seem to the phenomena of the subordinate universe, might yet be inapplicable to the mighty agency from which the phenomena of the subordinate universe received their origin; and if there be any species of agency which it is inadequate to express, it cannot justly be received as a general definition.

Since every conception which we are physically capable of forming of the nature of the Deity, is drawn from the phenomena which are more immediately present to our observation, and chiefly from the analogy of our own mind, —his goodness, as conceived by us, being only a transcendent degree of that goodness of which

we are internally conscious; and the notion of his designing power, as manifested in the beautiful order of the universe, being the result only of an influence from that order which ourselves produce,—it seems scarcely possible that our conception of power, as applied to the Supreme Being, should be altogether different from our conception of it, as applied to his creatures, by the contemplation of whose successive changes alone we are capable of rising to the contemplation of that mightier change, in which every thing that is not eternal had its origin.

The inquiry, however, still remains; and it is the most important on which we can enter with respect to the nature of Power. I do not say this with a view to its religious and moral dignity, as relating to a Being, who is not more truly the source of all power, than he is the source of all happiness; and whose unceasing bounty it is impossible to trace as it is every where around us, without a feeling of ardent admiration, which becomes devotion before we think of offering it in worship, and makes virtue more dear to us, at the very moment at which we feel, in the comparison, how faint is all to which we can give the name of Virtue. It is

not with a view to this best relation that we are at present to enter on the inquiry. It is only physically that we are to consider the Divine Power; and, even in this respect, as it relates to all our other physical investigations, there is none which can be regarded as of equal interest. Indeed all the errors of philosophers with respect to the general nature of power, or, at least their principal errors on this subject, seem to me to have been fostered, in a very high degree, by misconceptions of the divine Omnipotence; as if there were danger of lessening, in our devout admiration, the dignity of the Creator, by the admission of any powers, however subordinate to his primary will, in the things which he created.

It is of so much importance, for the strengthening of human weakness, and the consolation of human suffering, that we should have a full conviction of the dependence of all events on the Great Source of Being; that a doctrine would indeed be perilous, which might seem to loosen, however slightly, that tie of universal nature. But we may err, and in this case, as I conceive, have very generally erred, in our notion of the sort of dependence which seems at once

best accordant with the phenomena, and most suitable to the Divine Majesty. The power of the Omnipotent is indeed so transcendent in itself, that the loftiest imagery and language, which we can borrow from a few passing events in the boundlessness of nature, must be feeble to express its force and universality. When we attempt, therefore, to add to it in our conception, we run some risk of degrading the Excellence, which, as it is far above every earthly glory, it must always be impossible for us to elevate by expressions of earthly praise, that are the only homage which we can offer to it, from the dust on which we worship.

What the holiest views of God and the Universe require of us to believe, is, that all things are what they are, in consequence of that Divine Will, to the fulfilment of whose gracious design it was necessary that every thing should be what it is; and that He, whose will was the source of all the qualities which created things display, may, if it seem good to Him, suspend, or variously modify, the qualities which himself had given, or be, in any other way, the direct operator of extraordinary changes. We know God, as a Creator, in the things which are really

existing, that mark, in the harmony of their mutual agencies, however varied they may seem to be, a general purpose, and therefore a contriver;—and we believe in God as the Providential Governor of the world;—that is to say, we believe that the world, which he has so richly endowed, and the living beings, for whose use he seems so richly to have endowed it, cannot be indifferent to Him who made that magnificent provision, but must, on the contrary, be a continued object of his benevolent contemplation; and therefore, since all things are subject to his will, and no greater power seems necessary to suspend any tendency of nature than what originally produced it,—*if* there should be circumstances in which it would be of greater advantage, upon the whole, that the ordinary tendency should not continue, we see no reason, *à priori*, for disbelieving, that a difference of event *may* be directly produced by Him, even without our knowledge, in those rare cases, in which the temporary deviation would be for the same gracious end as that which fixed the general regularity.

But God the Creator, and God the Providential Governor of the world, are not,

necessarily, God the immediate producer of every change. In that great system which we call the Universe, all things are what they are in consequence of his primary will; but, if they were wholly incapable of affecting any thing, they would, virtually, themselves be as nothing. When we speak of the Laws of Nature, indeed, we only use a general phrase, expressive of the accustomed order of the sequences of the phenomena of Nature. But though in this application, the word Law is not explanatory of any thing, and expresses merely an order of succession which takes place before us, there *is* such a regular order of sequences, and what we call the qualities, powers, or properties of things, are only their relations to this very order. An object, therefore, which is not formed to be the antecedent of any change, and on the presence of which, accordingly, in all imaginable circumstances, no change can be expected as its immediate consequent, more than if it were not existing, is an object that has no power, property, or quality whatever. That substance has the quality of heat which excites in us, or occasions in us, as a subsequent change, the sensation of warmth; that has the quality of

greenness, the presence of which is the antecedent of a peculiar visual sensation in our mind; that has the quality of heaviness which presses down a scale of a balance that was before in equilibrium; that has the quality of elasticity, of which the parts, after being pressed closer together, return, when the pressure is withdrawn, in a direction opposite to the force which compressed them. If matter be incapable of acting upon matter, or upon mind, it has no qualities by which its existence can become known; and, if it have no qualities by which its existence can become known, what is it of which, in such circumstances, we are entitled to speak, under the name of Matter?

The objects around us, then, if they can be known to us at all as objects, do truly *act* on us, and on each other, in the only sense in which the word *action* can be understood; that is to say, they are truly, in certain circumstances, the reciprocal and immediate antecedents and consequents, in a series of changes: for, if this were not the case, the world, even though there were myriads of substances existing, never could be known to exist, and, as wholly ineffective, could not have been worthy of entering into

the gracious plan of Him who has surrounded us every where with the countless multitude of living and inanimate influences, which it is delightful to feel and to behold, and still more delightful to trace to that primary Beneficence, in which they all had their common origin.

Even while material objects are themselves reciprocally productive, as well as susceptible, of change, it may be said, therefore, and in one sense of the word said justly, that God is the Author of all the changes which take place; for it was in order that they might be the antecedents of the very changes which are consequent on their presence, that he formed them with the powers or qualities, which those changes are believed by us to exhibit. But it is in this sense only that God is the Author of them; and to suppose that he is himself the real operator, and the only operator, of every change, is to suppose, that the universe which he has made exists for no purpose.

Philosophers, however, not perceiving that the universal exclusive operation, which they ascribe to the Deity, would have made the very act of creation itself superfluous, as far, at least, as regards the inanimate universe, have considered the Divine Being as what they term the

Efficient Cause of every change that takes place; and have yet asserted the existence of a system of material things, of which, in that case, it would be impossible to discover the slightest evidence, or the slightest utility.

This error, however, will require a little fuller elucidation.

In the system of Occasional Causes, which formed a part of the Cartesian philosophy, and which was founded on the difficulty of imagining any mutual agency of substances so little congruous as mind and matter, this direct agency was denied in every case; and the changes that seem to be reciprocally produced by each in the other, were ascribed to the direct operation of God. According to this doctrine, it is He, and He alone, who, when light is present, affects our mind with vision; it is He, and He alone, who, when we will raise our arm, produces the necessary contraction of the muscles. The presence of light, in the one case, and our desire, in the other case, are the occasions, indeed, on which the Omnipresent Power becomes thus active; but they are instrumental only as occasions; and, but for the direct interposition of the Almighty himself, in both cases, there would be no vision, though light

were for ever present in the healthy eye, and no contraction of the soundest muscles, though our mind were wholly occupied, from morning till night, in willing a single motion of our arm.

When this doctrine ceased to be admitted, under the name of the System of Occasional Causes, it was far from losing its influence; for it only changed its denomination, and, under another title, continued to prevail still more extensively. It was* converted into the system of *physical* and *efficient* causes; and this doctrine, which scarcely can be said to differ from the other in any thing but in name, may at present be regarded as the universal faith of philosophers. The *occasional* cause of the one system is the *physical* cause of the other; for what is termed a Physical Cause, is truly, in this doctrine, the mere *occasion*, on the occurrence of which, a mightier agency is exerted,—that alone is the producer of the subsequent change, and alone, therefore, deserves to be denominated *efficient*.

According to this doctrine of efficient and physical causes, we are to believe, that there is in the phenomena of nature a regular series of

* Note D.

antecedents and consequents,—a series so regular, that, from the presence of the accustomed antecedent, we may, if the circumstances be the same, anticipate with confidence the change which was its former attendant. But all the antecedents of all the changes, however regular, are antecedents only. They are, as mere antecedents, the physical causes of all the changes that take place; but they are thus antecedents of particular phenomena, only because there is an efficient cause, that in every case is different from them, and necessary for the production of the effect,—an invisible something, which connects each particular consequent with its particular antecedent, or rather is, in every case, the sole efficient of it.

Such is the doctrine. Let us consider, then, what the doctrine implies.

In a former Section, I endeavoured to show that we have no other notion of power, than as that which is instantly and constantly followed by a certain change. That which has been always followed by a certain change, is immediately followed by it, and, as we believe, is to be in all future time immediately followed by it, is the cause of that change, in the only sense in which the word

*cause* seems to have any meaning. The *physical* cause, then, which has been, is, and always will be, followed by a certain change, is the *efficient* cause of that change; or if it be not the efficient cause of it, it is necessary that a definition of *efficiency* should be given us, which involves more than the certainty of a particular change, as consequent in instant sequence. Causation is efficiency; and a cause which is not efficient, is truly no cause whatever. It is possible, indeed, that what we may have before considered as the physical or efficient cause of a particular phenomenon,—that is to say, its immediate and constant antecedent,—may prove not to have been so; for it is possible, that a better analysis of a complex phenomenon may show a series of changes, where we had supposed only one. We before considered A as the immediate antecedent of D; but we find afterwards, that B and C are interposed: and we cease, therefore, to regard A as the cause of D; and give that name, first perhaps to B, and afterwards, on a still nicer analysis, to C. But we do not, on account of our minuter discoveries, call A or B the physical cause of D, and C its efficient cause. We

consider physical and efficient antecedence as exactly of the same meaning, or, rather, as both superfluous, when coupled with the word cause, that, of itself, expresses every thing which they can be employed to signify. C is the cause of D; for it has D as its invariable consequent: and, whatever verbal distinctions may be made, this is all which we can understand by the term; since no other import is assigned to it, even by those who make verbally the distinctions, to which we strive in vain to attach some accurate notion.

If, indeed, the asserters of the difference of physical and efficient causes had explained what they meant by the difference asserted, and proved that there is something more involved in the notion of power than the invariableness of a particular consequent, which may be expected instantly, as often as the antecedent itself recurs, their doctrine might have had some claim to be admitted. But they have contented themselves with asserting the distinction, without any very great effort, or rather, I may say, without any effort whatever, to explain to us in what the asserted difference consists.

If the distinction relate to a supposed differ-

ence of matter and mind; and if the meaning be, that matter is, in all circumstances, by its very nature, essentially incapable of being the direct antecedent of any changes, in other masses of matter, or in mind, and that these changes must, in every case, be produced by a spiritual being, as the sole imaginable efficient; —they, in the first place, take for granted, without the slightest proof, that matter is thus destitute of *qualities* of every species, since qualities are only another name for efficiency of change;—and, in the second place, by introducing a spiritual operator in every change, they only lengthen a sequence of physical phenomena, and do not produce any thing different from a sequence of regular antecedents and consequents. We before supposed, that the approach of a loadstone to a piece of iron was the immediate antecedent of the motion of the iron. We have now, according to this view of it, a more complex phenomenon;—in the first place, the approach of the loadstone, in whatever manner that may have been produced;—in the second place, the volition of the Deity, or of some subordinate spirit;—and, in the third place, the approach of the iron to the

loadstone. But it is quite evident, that, in this lengthened series, we have only obtained a new antecedent; and instead of supposing that the introduction of a loadstone is followed, has always been followed, and will always be followed, by the motion of all the iron that may be within a certain degree of vicinity to it, we must now suppose, that it is, has been, and always will be, followed by some spiritual volition, and that of this volition, or spiritual energy, whatever it may be, the motion of the iron, within a certain degree of vicinity to the loadstone, is, has been, and always will be, the consequent.

The asserters of the doctrine, then, even when they suppose that they are contending for a cause of a different species, under the name of efficient, are in truth introducing into the sequence observed by us, a new physical cause; and they are introducing it, as I have before said, without any proof; for the causes, which they term physical, they admit to be the only causes that come under our observation. They not merely introduce it without proof, however, but they introduce what, if proved to exist, would prove also the uselessness of almost every thing which exists.

That the changes which take place, whether in mind or in matter, are all ultimately resolvable into the will of the Deity, who formed alike the spiritual and material system of the universe,—making the earth a habitation worthy of its noble inhabitant, and man an inhabitant almost worthy of that scene of divine magnificence in which he is placed,—I have already frequently repeated. That, in this sense, as the Creator of the world, and willer of those great ends, which the laws of the universe accomplish, God is himself the Author of the physical changes which take place in it, is, then, most true; as it is most true, that the same Power, which gave the universe its laws, can, for particular purposes of his provident goodness and wisdom,* suspend, if it be his pleasure, any effect that would flow from these laws, and produce, by his own immediate volition, a different result. But, however deeply we may be impressed with these truths, we cannot find in them any reason for supposing, that the objects without us, which he has made surely for some end, have, as made by him, no efficacy, no

* Notes E and F.

power of being instrumental to his own great purpose, merely because whatever power they can be supposed to possess must have been derived from the fountain of all power. We have seen, indeed, that it is only as possessing this power, that they are conceived by us to exist; and their powers, therefore, or efficiencies, are, relatively to us, their whole existence. It is by affecting us, that they are known to us; and, if they were incapable of affecting us, or, —which is the same thing,—if we were unsusceptible of any change on their presence, it would be in vain, that the gracious benevolence which has surrounded us with them, provided and decorated for us the splendid home in which it has called us to dwell,—a home, that may be splendid indeed, as planned by the Omnipotent who made it, but which must for ever be invisible, and unknown to the very beings for whom it was made. Such, reciprocally, is the nature of our mind, and of light, that light cannot be present, or at least the sensorial organ cannot exist in a certain state in consequence of its presence, without that instant sensation which constitutes vision. If light have *not* this power of affecting us, it is with respect to us

nothing; for we know it only as the cause of the visual sensation. That which excites in us all the feelings, which we ascribe to certain qualities of matter, is matter; and to suppose that there is nothing without us, which excites these feelings, is to suppose that there is no matter without, as far as we are capable of forming any conception of matter. The doctrine of universal spiritual efficiency, then, in the sequences of physical causes, seems to be only an awkward and complicated modification of the system of BERKELEY; for as, in this view of physical causes that are inefficient, the Deity, by his own immediate volition, or that of some delegated spirit, is the Author of every effect which we ascribe to the presence of matter; the only conceivable use of the inanimate masses, which cannot affect us more than if they were not in existence, must be as remembrancers,* to Him who is Omniscience itself, at what particular moment he is to excite a feeling in the mind of some one of his sensitive creatures, and of what particular species that feeling is to be:—as if the Omniscient could

* Note G.

stand in need of any memorial, to excite in our mind any feeling which it is his wish to excite, and which is to be traced to his own spiritual agency. Matter, if we must still continue to use that name, has no relations to *us:* all its relations are to the presiding and operating Spirit alone. The asserters of the doctrine, indeed, seem to consider it as representing in a more sublime light the Divine Omnipotence, by exhibiting it to our conception, as the only *power* in nature: but they might in like manner affirm, that the creation of the infinity of worlds, with all the life and happiness that are diffused over them, rendered less, instead of more sublime, the *existence* of Him who till then was the sole existence: for power that is derived derogates as little from the primary power, as derived existence derogates from the being from whom it flows. Yet the believers of inefficient physical causes, who conceive that light is powerless in vision, are perfectly willing to admit that light exists, or, rather, they are strenuous affirmers of its existence, as essential to the very distinction on which their doctrine is founded; and are anxious only to prove, in their zeal for the glory of Him who made it,

and who makes nothing in vain, that this, and all, or the greater number of his works, exist for no purpose. Light, they contend, has no influence whatever: it is as little capable of exciting sensations of colour, as of exciting a sensation of melody or fragrance; but still it exists. The production of so simple a state as that of vision, or any other of the modes of perception, with an apparatus which is not merely complicated, but, in all its complication, absolutely without efficacy of any sort, is so far from adding any sublimity to the Divine nature in our conception, that it can scarcely be conceived by the mind, without lessening in some degree the sublimity of the Author of the universe, by lessening, or rather destroying, all the sublimity of the universe which he has made. What is that idle mass of matter, which cannot affect us, or be known to us, or to any other created being, more than if it were not? If the Deity produces, in every case, by his own immediate operation, all those feelings which we term sensations or perceptions, he does not first create a multitude of inert and cumbrous worlds, invisible, and incapable of affecting any thing whatever, that he may know when to operate,

in the same manner as he would have operated, though they did not exist. This strange process may indeed have some resemblance to the ignorance and feebleness of human power; but it is not the awful simplicity of that Omnipotence,

> " Whose word leaps forth at once to its effect;
> Who calls for things that are not,—and they come."

In those cases, however, in which the direct agency of the Supreme Being is indubitably to be believed,—as in that greatest of all events, when the universe arose at his will,—what notion are we capable of forming of such a change, and are we to consider that highest energy as different in nature, as well as in degree, from the humble delegated energies, which are operating around us?

The Omnipotence of God, it must indeed be allowed, bears to every created power the same relation of awful superiority, which his infinite wisdom and goodness bear to the humble knowledge and virtue of his creatures. But as we know his wisdom and goodness only by knowing what that human wisdom and goodness are, which, with all their imperfection, he has yet permitted to know and adore him; so, it is only

by knowing created power, weak and limited as it is, that we can rise to our feeble conception of his Omnipotence. In contemplating it, we consider only his will, as the direct antecedent of those glorious effects which the universe displays. The power of God is not any thing different from God, but is the Almighty himself, willing whatever seems to him good, and creating, or altering, by his very will to create or alter. It is enough for our devotion, to trace every where the characters of the Divinity,—of provident arrangement, *prior* to this system of things,—and to know, therefore, that, without that Divine will as antecedent, nothing could have been.* Wherever we turn our eyes,—to the earth, to the heavens, to the myriads of beings that live and move around us, or to those more than myriads of worlds, which seem themselves almost like animated inhabitants of the infinity through which they range,—above us, beneath us, on every side, we discover, with a certainty that admits not of doubt, Intelligence and Design that must have preceded the existence of every thing which exists. Yet, when we analyze those great but obscure conceptions,

* Note H.

which rise in our mind while we attempt to think of the creation of things, we feel that it is still only a sequence of events which we are considering, though of events the magnitude of which allows us no comparison, because it has nothing in common with those earthly changes, which fall beneath our view. We do not imagine any thing existing intermediately, and binding, as it were, the will of the Omnipotent Creator to the things which are bursting upon our gaze: we conceive only the Divine Will itself, as if made visible to our imagination, and all nature at the very moment rising around.

It is evident, that, in the case of the divine agency, as in every other species of causation, the introduction of any circumstance of supposed efficiency, as furnishing a closer bond of connexion, would, in truth, furnish only a new antecedent, to be itself connected. But, even though it were possible to conceive the closer connexion of such an additional circumstance, as might be supposed to intervene, between the will of the Creator, as antecedent, and the rise of the universe, as consequent,—it would diminish indeed, but it certainly could not be supposed to elevate the majesty of the person and

of the scene. Our feeling of his Omnipotence is not rendered stronger by the slowness of the complicated process. It is, on the contrary, the immediate succession of the object to the desire, —of an object so vast and so magnificent, to a simple volition,—which impresses the force of the Omnipotence on our mind; and it is to the divine agency, therefore, that the representation of instant sequence seems peculiarly suited, as if it were more emphatically powerful.

In the works of man, if we consider only the progressive changes, as they rise after each other, each effect is equally the immediate consequent of its particular antecedent. But the change first produced, may not be that which was primary in the mind of the operator,—the finished result which he contemplated at a distance, in his plan. Before this can arise, a multitude of gradual changes may be necessary; and quick, therefore, as each sequence may be, there is an appearance of slowness when we consider the whole successive parts of the train; because we have constantly in our mind one great sequence, of the desire itself, and the object of the desire, which a process, that is complicated with so many instrumental changes,

seems tardy to present. Man is not omnipotent. What *he* wills does not arise, merely because he has willed it; and often, therefore, to gratify a single wish, he must toil to produce sequence after sequence, and, in many cases, toil to produce them in vain. But there is a Being, who *is* omnipotent; and His boundlessness of power, as distinctively opposed to human feebleness, seems best marked by a rapidity in which there is nothing that intervenes between the will itself, and its perfect fulfilment.

In the liveliness of the impression produced by a change so rapid, is to be found the chief sublimity of the celebrated passage in Genesis, descriptive of the creation of light; whatever charm additional it may receive, from the ethereal purity of the very object that is imaged to us,—which seems itself of a nature so heavenly, as to have been worthy of being the first material emanation of the divine glory, to connect it afterwards with the grosser forms of earth. It is by stating nothing more than the antecedent and consequent, that the description is majestically simple. God speaks, and it is done. We imagine nothing intermediate. In our highest contemplation of his power, we believe only,

that, when he willed creation, a world arose, and that, in all future time, a similar volition will be followed by the rise of whatever he may will to exist,—that his will to destroy any of his works, will be in like manner followed by its non-existence,—and his will to vary the course of things, by miraculous appearances. The will is the only necessary previous change; and that Being has *almighty power*, whose *every will* is immediately and invariably *followed* by the existence of its object.

# PART SECOND.

## OF THE SOURCES OF ILLUSION WITH RESPECT TO THE RELATION.

# PART SECOND.

## SECTION I.

If, in the preceding analysis of the notion of power, I have been successful in showing the real import of the relation, according to which certain phenomena are classed by us as the causes of certain other phenomena, in a regular order of sequence, I may consider a great part of the mystery to be dissipated, which has been supposed to envelope in peculiar obscurity the physical successions of events.

We have seen, that in our notion of power there are only two elements,—immediate priority in a sequence, and the supposed invariableness of a similar consequent, on every past and future recurrence of the same antecedent, in the same circumstances. When we say of any thing, that it has been followed, is followed, and will

always be followed, by a particular change, and say at another time, that it has the power of producing that change, we do not make the slightest difference of affirmation; we only alter the words in which one unaltered meaning is conveyed.

This simple view of the import of causation, as we have seen in a successive review of all the generic varieties of events, is true of the changes that take place in the phenomena of the material world,—is true of the reciprocal influences of mind and the bodily organs,—is true of the changes more purely mental, when feeling succeeds feeling,—and, as far as we can humbly presume to speak of the omnipotence of God, it is true also of those mighty events, in which the Creator and Ruler of the world has deigned to reveal himself in those high characters of power.

The adoption of this simple definition of creative, as well as created power, relieves us from much of that confusion in which the philosophy of cause and effect has been involved by scholastic phraseology. The verbal distinctions which are made on this subject are either fallacious or of little value. There is,

in strictness of language, but *one* cause, the *proximate* event, or the proximate combination of circumstances, in the order of priority: though, as the proximate event has other circumstances, which invariably precede it, the term *remote cause* may be allowed for those remote circumstances, when a single order of events is considered abstractly, without regard to any co-existing series. A, being the cause of B, which is the cause of C, may itself be termed a remote cause of C; and might, in every case, be so termed, with perfect certainty as to the future subsequence of C, if the phenomena of nature, instead of being complicated by many co-existing series of events, were all comprised in a single unlimited progression of change after change. It must be remembered, however, that the term is allowed, not as expressing any new and different species of relation,—for the only real causation is still that of B by A, and of C by B; but merely for the sake of conciseness, to prevent the necessity of naming every intermediate event in a train of phenomena; and that, as there is a perpetual interference of such orders of events, in the variety of simultaneous changes which nature

exhibits,—by which the parts of one train modify the parts of other co-existing trains,—the uncertainty of any practical confidence in the results of causes that are remote, must increase, in a very high proportion, with their distance of antecedence.

The terms *predisposing* and *occasional* cause may be allowed, in like manner, for the convenient expression of those circumstances *of longer continuance*, and *of immediate occurrence*, the combination of which is, in certain cases, necessary for the production of a particular effect: but still it must be remembered, that these are not separate causes, distinct in nature. They are only parts of one complex antecedent; the real cause,—the proximate event, of which alone the relation of invariable priority can be asserted,—being the whole aggregate of circumstances, thus combined, at the moment before the commencement of the change of which we speak.

The distinction of *physical* and *efficient* causes, however, we have seen, is not thus allowable. It serves no purpose of useful abbreviation; and it has tended, more than any other circumstance, to keep alive the belief of some

mysterious intermediate existence between all the pairs of events, distinct from the antecedents and consequents that compose the sequence. It is not necessary, as we found, to the purity of theism, that we should suppose something divine and incomprehensible to be interposed, amid all those obvious and regular changes which we observe: it is sufficient, that we be fully impressed with the necessity of a Creator, and trace the universe, with all its regularity and beauty, as one great effect, to the Almighty source of Being. That some Spiritual will, Divine or subordinate, modifies immediately all the successions of events, has certainly never been proved; and the supposition is only another shape of that erroneous theory, which supposes the very notion of power to be acquirable only from the changes produced by the operations of mind; but, even though this unproved gratuitous supposition were admitted to be just, it would not be necessary, on that account, to add any new term to our language. The spiritual efficient, whatever it may be, being the immediate antecedent, would then be itself the true physical cause of every event, of which the circumstances that at present appear to us

to be the physical or proximate cause, would be only the *remote* cause, being thrown one step back in the series of causation: or, if we should suppose, that these circumstances have any direct influence, that co-exists with the will of the presiding Spirit, in the production of the effect, the whole would then form one aggregate of causation; and the physical and efficient cause would still be the same,—being nothing more than that combination of circumstances, whatever it may be, which immediately and uniformly precedes an event. The proper expression of doubt, therefore, for those who, without any warrant from observation or reason, imagine that there may be a spiritual interposition in every production of change, is not, that they are acquainted with the *physical*, and ignorant of the *efficient* cause, but merely, that they are not certain, as to the nature of that direct antecedent which is the real physical cause, or as to the exact nature and number of the circumstances, which may perhaps combine in it.

The powers of substances are only the substances themselves; and hence, whatever mystery may be supposed to attend the invariableness

of the changes that are consequent on their presence, is the mystery of their very existence as substances, and nothing more. A substance without qualities, if conceived to be an object of knowledge, seems a contradiction in terms: and the qualities of substances, as we have found, are only another name for their power of affecting other substances. Whatever definition we may give of matter, must always be the enumeration of those properties or qualities which it exhibits; and, if there were no powers, there would truly be nothing to define.

If, then, we suppose, in the first place, that we can know matter as having certain qualities; and, afterwards, find something very wonderful, in the regularity of the changes that are consequent on its existence in certain circumstances; we have begun to wonder in the wrong place: for, if we know matter as having qualities,—that is to say, if we know matter at all,—we have already taken for granted, that, in certain circumstances, it is to be the antecedent of certain changes, without which subsequent changes, the qualities of which we speak would be words without meaning. It would indeed be most wonderful, if matter had any qualities,

and if there were, at the same time, no regularity of the train of antecedents and consequents; for this would be to have certain qualities, and yet to be at the same time destitute of every quality.

All this regularity of succession, then, is assumed in our very notion of substances, as existing; and there is no power, different and separate, or distinguishable from them. Innumerable changes may be taking place in them at every moment; and in all time, past and future, these changes may have succeeded each other, and may continue to succeed each other, with a complication and variety to which our imagination cannot fix any limit; yet, however varied, and unceasing, and complicated they may be, the phenomena, in all their changes, present us a series of antecedents and consequents, but present us nothing more.

So obvious, indeed, does it appear to me, but for the strange misconceptions which have prevailed on the subject, that the *substances* which exist in nature,—the world of matter, its living inhabitants, and the adorable Being who created them,—are all the real existences in nature, and that, in the various changes which occur, there

can as little, therefore, be any powers or susceptibilities, different from the antecedents and consequents themselves, as there can be form, different from the co-existing particles which constitute it; that the labour to render this truth more apparent, by argument, seems to me almost like an attempt to demonstrate a self-evident proposition. An illusion, however, so universal, as that which supposes the powers of nature to be something more than the mere antecedents and consequents themselves, is not what we are entitled, without the fullest examination, to consider as an illusion. In the minute discussion to which it has now been subjected, it has been made, I trust, sufficiently apparent, that the doctrine is founded on error. But how has it happened, that there should be such universality of error, with respect to a relation, which every philosopher, who has ventured on any physical inquiry, may be supposed to have had constantly present to his mind, and which may be considered even as equally familiar to the ignorant as to the wise; since the ignorant, as well as the wise, are every moment adapting their conduct to it, in some one or other of its innumerable forms? In the

case of a mistake, so prevalent, and so important in its consequences, it cannot be uninteresting to inquire into the circumstances which appear most probably to have led to it. Indeed, the more false, and the more obviously false, the illusion is, the more must it deserve our inquiry, what those circumstances have been, which have so long obtained for it the assent, not of common understandings merely, but of the quick-sighted and the subtile. A truth is but half revealed, when it makes us know only that we have been in the wrong: the chief revelation is that which tells us of some principle within us, that rendered the fallacy to us for the time a relative truth. We avoid only one error, in knowing that we have been deceived; but we may avoid many errors, in knowing how that one has deceived us.

## SECTION II.

The belief, that something more than mere invariableness of precession, however regular in the certainty and exact similarity of a particular consequent, is implied in power, and in all the synonymous expressions of agency, has arisen from the joint influence of various circumstances, some of which are to be found in the nature of things, and others in the arbitrary forms of language, which to all mankind in some measure, and to the far greater number of mankind in every respect, are themselves, in the influence which they exercise over thought, like a portion of that very nature.

The sources of fallacy, in the present instance, are chiefly of the former kind. But, before considering these, some influences of mere language, though less important, are yet

of sufficient consequence to deserve to be pointed out.

When I speak of these verbal influences, however, as less important, I must be understood as speaking of the principles of error, which are primarily and essentially in the forms of language. In one sense of the word, all our prejudices, that pass from mind to mind, may be said to be in a great measure verbal; as originally communicated, and perpetuated, by conversation or writing. The more frequently, for example, we may have been accustomed to hear of power as something distinct from the antecedents and consequents in a train of events, that mysteriously connects these events with each other, the more deeply of course, by the repetition of these verbal associations, is the error impressed on our minds. But the influence of language, in such cases, is secondary only, not primary; and it is to its primary influence alone that my present remarks are confined.

Of these sources of primary error in language, I may remark, in the first place, the effect produced by the various metaphorical phrases which have been employed to express

the regularity of the antecedence and consequence of certain phenomena. We speak of events as *connected* or *conjoined;* and we speak of their *bond* of connexion, as if there were something truly intermediate. If we examine, indeed, with a very nice analysis, all that can be justly understood in these phrases, it will be found that the metaphor does not really express the existence of any thing interposed, since the very supposition of any such link would only transfer an imaginary difficulty from one observed object to another object unobserved, and leave, between the new hypothetical antecedent and its consequent, an invariableness of sequence as inexplicable as before. It is, in truth, not as expressing more than invariableness of sequence, but merely as being the strongest figurative expression of invariableness of sequence, that *bond,* and its various synonymes, are at all significant in the philosophy of cause and effect. The metaphor, considered as a mere metaphor, is a very appropriate one. The principal circumstance, in which two bodies, bound together, differ from two similar bodies which are not bound together, is, that in the former case, the

appearance of one of the bodies is a mark of the appearance of the other, in future time as well as in the present; while, in the latter case, any casual vicinity that is at one moment perceived by us, may be broken by the slightest accident of the next moment. It is not wonderful, therefore, that a circumstance so strongly indicative of the sort of prophecy which we are disposed constantly to make within ourselves as to future proximities of the events that have once appeared to us to be proximate, should have been borrowed from the ties and links of material things, to express this regularity of order, in which one object appears as closely and constantly after another, as if it were mechanically bound to it; and, when once introduced and generally employed, it is not wonderful that this particular metaphor should do, what all metaphors in philosophy are very apt to do. It expresses, indeed, and, if the metaphor be even rhetorically just, must always express, at least one resemblance; but other circumstances are soon added, and gradually extended, which, though true of the object from which the figure was taken, may not be true of the object, to which, on account perhaps of that single resem-

blance, it was originally applied. A bond is a sign of proximity; and it is in this respect it resembles causation: but it is more than a mere sign; it is itself something intermediate, which has an existence as distinct and independent as that of either of the substances which it connects; and in this separability and self-existence it does not resemble causation. But still, however simply and justly the metaphor may have been employed originally, to express the mere regularity of sequence of one event after another event, it is a very natural consequence of the frequent use of the figurative phrase, that we should learn, by a wider extension of this partial and limited resemblance, to consider the bond which connects events as something which is itself intermediate; and when it thus becomes the expression to us of something intermediate, our very ignorance of any thing really intervening, will only render more mysterious what, obscure as it may be in our conception, we yet believe not the less to exist.

Another way in which our language tends to deceive us in this respect, is by the difference of meaning which we have been accustomed to assign to the words *cause* and *effect*, and to the

other words that signify *priority* and *succession*, when used without the qualifying adjectives, which are necessary to identify them in import with those single words.

I have already explained in what manner, in the phenomena of nature, there are sequences which are casual, as well as sequences which are invariable. There are innumerable substances, capable of existing in various states; and in these changes of state they exhibit to us phenomena in co-existing series. At the same moment, B may be succeeding A, S succeeding R, and Y succeeding X. Between the parts of these pairs, reciprocally, there is a relation of invariable priority and subsequence. But it does not follow that there should be a similar relation of the parts of the co-existing trains to the antecedents and consequents of the other trains. From the circumstance of the mere co-existence of the series, however, A is in this case the *antecedent* of S and Y, as much as of B. B, S, and Y, equally follow it at one particular moment; but it is the *cause* of B alone, which follows it, not at that moment only, but uniformly. It is necessary, therefore, that we should have terms to express changes which are casually subsequent to

other changes, as well as those which are invariably subsequent. In the single word *cause*, we have united, with the fact of mere priority, our belief of the uniformity of the same consequent, in past and future time. We are accustomed, therefore, for the sake of conciseness, to employ that single word, or some other single word that is synonymous, when the great circumstance of invariableness is meant to be strongly expressed, and to apply the terms of mere succession only to those events, in which we have no regard to uniformity of order, and in which the successions, therefore, may have been altogether casual. *Cause* and *sequence* thus assume to our mind an appearance of opposition rather than of similarity. When, however, in our speculations on the order of events, we reduce *cause*, by analytic definition, to its two elements of immediate priority and invariableness, we are obliged, as we cannot use any of the single words which are exactly tautologous, to revert to the use of the term Sequence, and to qualify it by some appropriate adjective. Yet the influence of the former habit of opposition still remains; and, therefore, on the first enunciation of the proposition, that cause and effect are but a species of sequence,

we feel a sort of discrepancy in the words Cause and Sequence, which the mere addition of the important qualifying adjective *invariable* is not able wholly to remove. All which we understand, indeed, in causation, is mere invariableness of sequence; but we still think that there must be something more, which, of course, being wholly unknown to us, must be something that is very dark and very wonderful,—being invisible at every moment, though at every moment before our very eyes, and producing every change which we perceive; but never producing that one by which it might itself become an object of our perception.

There is yet another form of verbal influence in some of the most common unavoidable modes of grammatical construction, which I conceive to have greatly favoured the mistake. All languages, however much they may differ in the minuteness of their analysis, must, to a certain extent, be analytical; evolving, in many successive words, the complex feeling of a single moment. When the analysis and distribution are once made, the same terms are afterwards extended to innumerable objects, and innumerable relations of objects; to express what may be

analogous, indeed, in all, but may yet differ in many important respects. The most abstract terms of relation may thus, in their widely extended use, carry with them the same sort of error which I stated to arise from the use of metaphors. They may lead us to extend to the analogous object *more* than the analogous circumstance which alone justifies the use of them. Thus, when, in compliance with the analytical forms of grammar, we speak continually of the powers *of* a substance, or of substances that *have* certain powers,—of the figure *of* a body, or of bodies that *have* a certain figure,—in the same manner as we are accustomed to speak of the birds of the air, of the fish of a river, of a park that has a large stock of deer, or of a town that has a multitude of inhabitants; we gradually learn to consider the power *of* a substance, or the power which the substance *possesses*, as something different from the substance itself, inherent in it, indeed, but inherent as something that may yet subsist separately. In the ancient philosophy this error extended to the notions both of form and power. In the case of form, however, though the illusion lasted for many ages, it did at length cease; and no

one now regards the figure of a body as any thing but the body itself. It is probable that the similar illusion with respect to power, as something different from the substances that are said to possess it, would in like manner have ceased, and given place to juster views; if there had not been in the very nature of things many circumstances of still more powerful influence, to favour the illusion in its origin, and foster and perpetuate it.

These circumstances, therefore, will next deserve our consideration.

## SECTION III.

We have already seen, in the forms of language, many circumstances that tend to produce or aid the fallacy which we are examining; and we have now to consider other causes of it, that are to be found in the changing phenomena themselves, or, at least, in the view of them which it is scarcely possible not to take, till a more minute analysis have corrected the error.

Of this kind is the mistake as to the seeming latency of power, at times when it is said to be unexerted,—a mistake which philosophers have partaken with the vulgar, because, like the vulgar, they have been content, in the process of causation, to admit as mysterious, what a more analytical view of the process would have proved to be very simple.

If I have rendered sufficiently clear the doctrine of the preceding Sections, I have shown, that Power is nothing latent in substances, but

is only a name for the substance itself, in which it is said to be latent,—a name, that, as uniformly expressive of a relation to some consequent change, is fairly applicable to the substance as often as it exists in the circumstances, in which some effect takes place, but only when it exists in those circumstances. In all other circumstances, but those in which the presence of the particular substance is the immediate antecedent of some change, the relation, to which we give the name of Power, does not exist; and, when we speak of the power as remaining even in these circumstances in which no change is consequent, it is allowable merely for brevity of expression, and means only that the substance of which we speak, however inefficient it may seem, while every thing is remaining unaltered, is one which, in certain circumstances different from the present, is always attended with a certain change, in itself, or in some other substance. If this popular and convenient language were to be examined very rigidly, it would be necessary, indeed, to limit the reference of power, to the particular circumstances in which the presence of the substance is productive of change; since, in all

other circumstances, as there is no tendency to any change, there is no relative antecedence or power, of which to speak. But, without insisting on such rigid accuracy, we may be allowed to avail ourselves of a wider use of the phrase, if, as often as we use it in our philosophic analyses, the precise limitation be mentally made.

There is a difference, in this case,—of power, as conceived, and power, as really existing,—which it may be necessary to point out. What is permanent, in our imagination of objects, may be very far from being permanent, in the objects themselves which are imagined by us. In the intervals of what is termed Exertion, there is truly, as I have said, no power, if the meaning of that word be accurately considered; for, in these particular circumstances, there is no change, nor tendency to change, in any thing, and therefore no relation of antecedence to change, which is all that is meant by the word Power: the circumstances have not occurred, which are necessary to constitute the state of efficiency, or aptness to be followed by a certain change; and, if these never were to occur, the substance of which we speak would remain for ever powerless. The power, in short, is

wholly contingent on certain circumstances, beginning with them, continuing with them, ceasing with them. In the intervals of recurrence of these circumstances, however,—or, to use the ordinary popular language, in the intervals of *exertion* of the supposed latent *power* of a substance,—we may think of the circumstances in which its presence is productive of change; and knowing that, as often as these circumstances recur, the change, too, will recur, we may transfer to the substance, as if permanent in it, what is truly permanent only in our thought, which, in the absence of the circumstances of efficiency, imagines them present. But a very slight attention, surely, ought to be enough to convince us, that it is by our imagination only we thus invest the substance with a character of continued power, which does not belong to it;—that what we know of the effective relation of the substance to the particular change of which we speak, is not its universality in all circumstances, but its contingence on certain circumstances; since in these circumstances, and only in these, the presence of the substance is the direct antecedent of the change;—and that, as all which

truly exists in a sequence of changes is only the antecedent itself, and the consequent itself, without any thing separate and intermediate, which can be denominated Power, we might as well speak of a latent consequent, as of a latent antecedent, when there is truly no latency of one or of the other, but both are completely present and visible. Even if *antecedence* and *consequence* did mean something distinguishable from the particular *antecedent* and particular *consequent,* we might as well suppose one of these *states* to be latent as the other, if a latent state could have any meaning; and believe that there is in cold solid steel a latent liquidity, as much as in cold unkindled fuel a latent power of liquefying it. Let the fuel be kindled, so as to produce a certain heat, and the steel be immersed in it, for a certain time; the change to which we give the name of Fusion will then, indeed, take place. But a blade of steel, and the largest mass of fuel, might remain for ever in the closest proximity, without such a change; because the relation of antecedence and consequence, in the fusion, is not a mutual relation of steel and fuel in all circumstances, but of steel and fuel in certain circumstances. A very

high temperature is necessary for the liquefaction; and, where that temperature is not, the fusion itself, and the power of fusion, are, in reference to the substances in that particular situation, equally words without meaning.

Since a great part of the error, however, in this case, arises from inattention to the difference of the circumstances in which substances exist, when they are productive of change, and when they are not productive of it; a little fuller elucidation of this difference will tend to show more clearly the principle of the mistake, which leads to the reference that is falsely made of power, as something which is constantly present,—not co-extensive only with the circumstances in which certain changes are consequent, but with all the circumstances in which the substance that is said to possess it, can exist,—as much when there is no resulting change whatever, as when changes occur in instant sequence.

In considering the physical changes which come under our view, it is impossible for us, in many cases, not to give a sort of unity, in our conception, to phenomena which are in their nature complex. We consider them, as

in some measure *one;* because, however complex they may truly be, they exhibit to us one great general character. Wind, rain, frost, thaw, vegetation, life, death, are single words; but many changes of many elementary atoms are expressed by them. In like manner, when we have given a single name to any substance, however numerous and various the elements may be of which it is composed, we regard it as one, in all the changes of circumstances, that leave in it a semblance of continuity, or do not alter in any remarkable degree the physical qualities with which it directly affects our senses: for, if the sensible qualities be greatly changed, the difference becomes too striking to be consistent with belief of that continued unity of which I speak. When water, for example, is so much altered in appearance, as to present to us a solid mass, in congelation, or when it is attenuated and dispersed in the form of steam, we scarcely think of it as water; but, in all the slight variations that take place, in the degrees of temperature which intervene between these remarkable changes, we regard it as the same identical substance,—not perhaps in strict philosophy, but in that popular view,

which is never wholly absent from the philosophic mind, even when it strives to consider objects most exactly as they are.

If this illusion, as to a sort of continued unity and sameness, hold in some degree, even when there are slight apparent changes of sensible qualities, it may be supposed to be still more remarkably the case, when there is in substances no manifestation of any change whatever, that is capable of directly impressing our senses. A living human being, for instance, seems to our eyes the same in every respect, at the very moment when he is about to elevate his arm, as he was for many minutes before, when his arm continued at rest. We believe that he has the power of moving his arm, whenever he chooses to move it; and, as there is no difference to strike the senses, at the instant of beginning motion, so as to mark to us the particular antecedent of the particular consequent, we are very naturally led to consider the quality, on which the motion depends, as a general property of the human being to whom we ascribe it. Man, we say, has in health, the power of moving his arm; and, since the arm is not constantly in motion, we consider the power, which is thus

ascribed as a general property, to be something that may lie latent as it were in the living frame. That active energy, which may, or may not be, at different times, when all that appears is similar, is hence conceived to be distinguishable from the mere existence of the seemingly unaltered mass,—something which rather resides in it, than is a part of it. The same living body is before us, at different moments. In some of those moments, a particular change is observed to take place in it; in other moments, there is no such change. Its presence, indeed, in one state observed by us, must precede the new state observed; since, without this continued presence, the change itself, which the voluntary motion exhibits, could not be remarked; but, since the only antecedent observed by us is the body in its state of previous repose, and since we know that the change does not depend on the presence of this mere *antecedent*,—if that name is to be given to the substance that was present equally, and exhibited the same appearance when the change was in the very instant about to follow, and when it was not produced at all,—it is regarded as a proof of something *more*,—of a *power* that is now *exerted*, and that

was latent therefore in the antecedent itself, till thus called into exercise.

Such is the vague sort of reasoning, with respect to the continued existence of power in circumstances in which it is not exercised, that appears just, to all who are not in the habit of making any very nice analyses, either of their thoughts or of the complex things before them, and who think, that what they have long been accustomed to regard as one, has therefore a real unity, of which all that is true at one moment must be equally true at every other moment. We have only to subject the supposed unity to analysis; and all the mystery which led to the notion of power as something latent and inherent in substances, capable of being exercised or not exercised at different times, will be found to disappear.

The living body is not one substance, because the surface which it presents to us is seemingly continuous. Every organ is itself a multitude of elements, that have no other unity, than as co-existing in immediate vicinity, and are truly the agents or subjects of innumerable changes, many of which our senses are incapable of perceiving; while others, which we are capable

of perceiving, without being able to distinguish the immediate circumstances on which they depend, we ascribe, with a sort of vague reference, to the body, as if it were a single substance. At the moment before the arm is moved, there is a change of some sort, in the nerves that are instrumental to the contraction of the muscles; a change which takes place on our volition, but requires that volition to precede it. It is not strictly true, then, that man, as man, has the power of moving his hand, if it be meant, that he has this power in all circumstances, in which no outward restraint is imposed; for certain circumstances, that are more than mere freedom from any foreign force, are necessary for the power. It is not *man* who has the power; it is man *willing;* and, till the volition and the consequent nervous change, whatever it may be, it may be said, with the air of a paradox perhaps, but with perfect truth, that a man has as little power of moving his own arm, as of putting in instant motion the arm of another person at a mile's distance. The real antecedent of the muscular contraction, as far as we are yet capable of judging physiologically, is a certain

invisible and indistinguishable state of the nerves of the part. When the nerves are in this state, motion of the arm follows; when they are not in this state, no motion of the arm follows. The *power*, therefore, as always relative to that particular state of the nerves, is, when the *antecedent* is, and only when the antecedent is. It is not something that exists and is latent during the time of rest: it is a relation of the will, or of the nervous affection that follows the will, to the muscular contraction; and, when there are no relative and correlative nervous and muscular states, the power in those circumstances is not latent,—it is nothing.

I must remark, however, once more, to prevent the risk of misconception, that though, in a philosophic discussion of the nature of power, it is necessary to make this strict analysis, and limit and determine the circumstances, in which alone it can be said with physical truth, that the relation subsists between a particular antecedent and a particular consequent, I am far from wishing that the more extensive popular usé of the phrase, which speaks of the powers of substances as permanently existing in them, should be given up. Such technical and strictly

logical nicety, in ordinary cases, would be as inconvenient as absurd. There are many forms of expression, which it is of great advantage to retain on account of their brevity, though they may not be perfectly accurate, if strictly interpreted; and all which is necessary is, that we should be on our guard as to the real meaning, that we may not lose or confound it in the freer application. In the present instance, for example, we may be perfectly certain, that it is not *man*, simply as existing, who has the power of moving his arm, but man *willing*, or, to pursue the analysis still more minutely, man in a particular state of affection of certain nerves; since it is then only that the consequent motion of the arm ensues; but still, as this nervous affection is in health always consequent on his will, and as it is this very obedience to the will which alone renders the arm so important to us as a piece of living machinery, it is very convenient that we should be able to state the relation in ordinary discourse, without so many words, as would be necessary, if we were to attempt to convey accurately, at all times, the restricted meaning, that limits the power to the particular circumstances, in which alone the particular

antecedence and consequence take place. It is not the less useful, however, for the physical inquirer, to have constantly in mind the precise restriction, though not expressed in the words, which, in compliance with popular use, he may often find it convenient to employ.

Power, then, is not something latent in substances, that exists, whether exercised or not. There is, strictly, no power that is not exerted; for, as it is a word of no meaning, unless as expressive of the instant sequence of some change, and as changes take place only in certain circumstances, it is only in those circumstances in which they do take place, that there can be antecedents and consequents to impress us with the relation to which we give the name of Power. What is termed the Exercise of Power is only another name for the presence of the circumstances in which, and in which alone, there is the power of which we speak; as power unexerted is the absence of the very circumstances which are necessary to constitute power.

There is scarcely any analysis of the complex processes of thought, with which philosophy is conversant, that appears to me to give so much

light into nature as this one; and with which I consider it, therefore, as so important to familiarize the mind. If it be clearly understood, a great part of what might otherwise have seemed very profound and subtile, in the works of many eminent metaphysicians, will appear, what it truly is, a tissue of distinctions merely verbal, as frivolous as any of those which, in a darker age, were the subjects of tumultuous and never-ceasing contention, in the technical disputations of the schoolmen.

If, for example, we know that power is always a relative term, applicable to a substance, only in the particular circumstances in which a change of some sort is uniformly consequent, how little more than a number of mere words can we find, in the cautious distinctions, with which Dr. Reid would guard his definition of it!

"The name of a *cause* and of an *agent*," he says, "is properly given to that being only, which, by its active power, produces some change in itself, or in some other being. The change, whether it be of thought, of will, or of motion, is the *effect*. Active power, therefore, is a quality in the cause, which enables it to produce the effect; and the exertion of that

active power in producing the effect, is called *action, agency, efficiency.*

" In order to the production of any effect there must be in the cause, not only power, but the exertion of that power: for power that is not exerted produces no effect.

" All that is necessary to the production of any effect, is power in an efficient cause to produce the effect, and the exertion of that power: for it is a contradiction to say, that the cause has power to produce the effect, and exerts that power, and yet the effect is not produced. The effect cannot be in his power, unless all the means necessary to its production be in his power.

" It is no less a contradiction to say, that a cause has power to produce a certain effect, but that he cannot exert that power: for power which cannot be exerted is no power, and is a contradiction in terms." *

How many pages are there of such combinations of words, with the mere semblance of reasoning, in the works of this philosopher, and of many other philosophers, the labour of

* Essays on the Active Powers of Man, Essay IV. ch. ii.

reading which, and the labour of writing which, would have been saved by a little more attention to the real meaning of the word Exertion, as not distinguishable in any way from the power itself, which is said to be exerted, but significant only of that very antecedence to some consequent change, which power denotes,—significant of the existence of the circumstances, in which alone there is any consequent change, and in which alone, therefore, is to be found the power, that is co-extensive with them!

The analysis, however, which this distinction involves, is one which, as it has not been made by philosophers of the greatest eminence, cannot be supposed to be made by the unreflecting multitude. They know only, that, when they will to move their arm, their arm moves accordingly. But they think that they are themselves exactly the same, when they do not will to move it, as when they are willing it; and they suppose, therefore, that power is something which is always possessed by them,—something, which at all times, and in all circumstances alike, whether exerted or unexerted, is still present with them, like the pen or the pencil, which has as real existence, and is as much

theirs, when it is lying on the table before them, as when it becomes in their hands, at once the instrument and interpreter of their most secret thoughts.

In the nature of things, there is so much complication, that a perpetual analysis is necessary for distinguishing the elementary properties that appear in one great compound result; and, after the remarks now made, it is not difficult to see, how the imperfect analysis, which leads to the belief of power, not as the relation of an order of change in substances that are in certain circumstances, but as something which, exerted and unexerted, exists in them in all circumstances, and therefore, when no changes are taking place, as much as when there is the most rapid succession of changes, might have been sufficient to give rise to the mysterious notions that are entertained of causation, as implying, in addition to the antecedents and consequents, in a train of events, something which is in the train, and yet is not to be confounded with the antecedents and consequents themselves, that form the whole progressive series;—which, therefore, even though we could be supposed to know all the substances that

exist before us, would still be necessary to be added to them; as if, in the number of existing things, there could be more than the whole number of things that exist. A belief so very strange can scarcely fail to be founded in illusion; and one cause of such illusion, the remarks now made on what is termed the Exercise of Power, as distinguishable from power itself, have, I trust, successfully pointed out.

## SECTION IV.

In the preceding Section, we have seen one cause of error with respect to the nature of power, in the unity and sameness of physical character, which we falsely ascribe to substances, in all the changes of circumstances in which they can be placed, and the consequent erroneous belief, that what is justly referable to them, in certain circumstances, must be equally referable to them in all circumstances. The powers, therefore, which they *exhibit* to us, in the changes that follow their presence in some situations only, we believe, as they must belong to them at all times, to be *latent*, in the other situations, in which they are present without any consequent change; and hence believing that a word, which is expressive only of the relation of antecedence to some instant change, must yet have some other meaning, with which

it may be supposed to continue applicable in all circumstances, even when there is no subsequent change whatever, we are necessarily led to distinguish the power itself, which is not the antecedent of any change, from the exercise of power, when there is such actual antecedence: and the process of causation, therefore, appears to us very mysterious; since it is regarded as the development of something which is for ever existing before us, latent and invisible, and which, even at the instant in which it is supposed to be evolved, has already become latent and invisible again, before our eye, in its quickest glance, can catch even a gleam of its rapid evanescence.

Such is one of the great causes of fallacy with respect to the nature of power. But there is a source of illusion which we are next to examine, that appears to me of much stronger and more extensive and lasting influence.

This cause of error is to be traced ultimately to the imperfection of our senses.

As our senses are at present constituted, we know that they are too limited in their range and acuteness, and too feeble even within their narrow boundary, to enable us to distinguish

all the elements that co-exist in bodies; and of elements, which are themselves unknown to us, the minute changes which take place in them must of course be unknown. We are hence, from our incapacity of distinguishing these elements by our imperfect senses, after the minutest analysis which it is in our power to make, incapable of observing the whole series of internal changes that occur in them,—the whole progressive series of antecedents and consequents in a phenomenon that appears to our senses simple; and since it is only between immediate antecedents and consequents, that we suppose any permanent relation, we are, therefore, constantly on the watch, to detect, in the more obvious changes that appear to us in nature, some of those minuter elementary changes which we suspect to intervene. These minute invisible changes, when actually intervening, are truly what connect the obvious antecedents with the obvious consequents; and the innumerable discoveries which we are constantly making of these, when some finer analysis evolves and presents them to our search, lead us habitually to suppose, that amid all the visible changes perceived by us, there is some-

thing latent, which links them together, and, though concealed from our view at present, may be discovered, perhaps, by some analytic process, that has not yet been employed.

He who, for the first time, hears a bell rung, if he be ignorant of the theory of sound, will very naturally suppose, that the stroke of the clapper on the bell is the cause of the sound which he hears. He learns, however, that this stroke would be of little effect, were it not for the vibrations excited by it in the particles of the bell itself; and another discovery, still more important, shews him that the vibration of the bell would be of no effect, if it were not for the elastic medium interposed between it and his ear. It is no longer to the bell, therefore, that he looks, as the direct cause of the sensation of sound, but to the vibrating air; nor will even this be long considered by him as the cause, if he turn his attention to the structure of the organ of hearing. He will then trace effect after effect, through a long series of complex and very wonderful parts, till he arrive at the auditory nerve, and the whole mass of the brain, in some unknown state of which he is at length forced to rest, as the

cause or immediate antecedent of that altered state of mind which constitutes the particular sensation. All these phenomena were constantly taking place, around him and within him, in regular series, at every repetition of the ringing of the bell; but, as his senses could not distinguish the elementary motions, they were taking place before him unobserved. He learns, however, that they do take place; and, extending his inquiry to other phenomena, learns perhaps that in these, too, there are sequences of changes before unknown to him, the latent causes, progressively, of ultimate changes which before appeared to him simple and immediate. He suspects, therefore, that in phenomena the most familiar to him, there may be, in like manner, other changes that take place before him unobserved, the discovery of which is to be the discovery of a new order of causes.

It is quite impossible, that the constant search, and frequent detection, of causes before unknown, thus found to intervene between the more manifest sequences of phenomena, should not, by the influence of some of the most common principles of the mind, at length associate almost indissolubly with the very

notion of change, as perceived by us, the notion of something intermediate, that as yet lies hid from our search, and connects the parts of the series which we at present perceive.

This latent something, that is supposed to intervene between the observed antecedent and the observed consequent, being the more immediate antecedent of the change which we observe, is, of course, regarded by us as the true cause of the change; while the antecedent, actually observed by us and known, ceases for the same reason to be regarded as the cause; and a cause is hence supposed by us to be something very mysterious; since we give the name, in our imagination, to something of the nature of which we must be absolutely ignorant, as we are, by supposition, ignorant of its very existence. The parts of a series of changes, which we truly observe, are regarded by us as little more than signs of other intervening changes, as yet undetected; and our thought is thus constantly turned from the known to the unknown, as often as we think of discovering a cause.

The expectation of discovering something intermediate and unknown, between all known

events, it thus appears, is very readily convertible into the common notion of power as a secret and invisible tie. "Why does it do this?" or, "How does it produce this effect?" is the question which we are constantly disposed to put, when we are told of any change which one substance occasions in another; and the common answer, in all such cases, is nothing more than the statement of some intervening object or event, supposed to be unknown to the asker, but as truly a mere antecedent in the sequence, as the more obvious antecedent which he is supposed to know. How is it that we see objects at a distance?—Because rays of light are emitted or reflected from the object to the eye. The new antecedent appears to us a very intelligible reason. And why do rays of light, that fall in confusion from so many bodies within our sphere of vision, on every point of the surface of the eye, give us distinct impressions of all these different bodies? Because the eye is formed of such refracting power, that the rays of light, which fall confusedly on its surface, converge within it, and form distinct images of the objects from which they came, on that part of the eye which is an expansion of the nerve of

sight. Again, we are told only of intervening events, before unknown to us; and again, we consider the mere knowledge of these new antecedents, as a very intelligible explanation of the event, which we knew before. This constant statement of something intermediate, that is supposed to be unknown to us, as the cause of the phenomena which we perceive, whenever we ask *how* or *why* they take place, continually strengthens the illusion, which leads us to regard the powers of objects as something different from the perceived objects themselves. And yet it is evident, that to state intervening changes is only to state other antecedents, not any thing different from mere antecedence; and that, whatever number of these intervening changes we may discover between the antecedent and consequent which we at present know, we must at length come to some ultimate change, which is truly and immediately antecedent to the known effect. We may say, that a gun, when fired, excites the sensation of sound, because it excites vibrations in the intervening air,—that these vibrations of air are the cause of sound, by communicating vibration to parts of the ear,—and that the vibrations of these parts of the ear are

the cause of the sound, by affecting, in a certain manner, the nerve of hearing, and the brain in general. But, when we come to the ultimate affection of the sensorial organ, which immediately precedes the sensation, it is evident, that we cannot say of *it*, that it is the cause of the sound, *by* exciting any thing intermediate, since it then could not itself be that ultimate affection by which the sound was immediately preceded. It is the cause, however, exactly in the same manner, as all the other parts of the sequence were causes; merely by being the immediate and invariable antecedent of the particular effect. If, in our inability of assigning any thing intermediate, we were to say, that this last affection of the sensorial organ occasioned the sound, because it had the power of occasioning sound, we should say nothing more, than if we said at once, that it occasioned the sound; or, in other words, was that which could not exist in the same circumstances without the sound as its instant attendant.

What is thus indisputably true, of the last pair of changes, in which causation is evidently nothing more than direct antecedence, is not less true of all the other changes in the sequence;

and would have been equally manifest, if *their* immediate proximity had been as evident as that which we are obliged to admit in the antecedent and consequent which are by supposition the last,—when, after imagining the longest series of intervening changes, we feel that we must come to some ultimate change, in which the antecedent and consequent have nothing to divide them.

We see only parts of the great sequences that are taking place in nature; and it is on this account we seek for the causes of what we know, in the parts of the sequences that are unknown. If our senses had originally enabled us to discriminate every element of bodies, and, consequently, all the minute changes which take place in these, as clearly as the more obvious changes at present perceived by us,—in short, if, between two known events, we had never discovered any thing intermediate and unknown, forming a new antecedent of the consequent observed by us,—*a cause*, in our notion of it, would have been very different from that mysterious unintelligible something, between entity and nonentity, which we now conceive it to be, or rather, of which we vainly strive to form a

conception: — and we should then, probably, have found as little difficulty in admitting it to be, what it simply and truly is, only another name for the immediate invariable antecedent of an event, as we now find, in admitting the form of a body to be only another name for the relative position of the parts that constitute it.

# PART THIRD.

## OF THE CIRCUMSTANCES, IN WHICH THE BELIEF OF THE RELATION ARISES.

# PART THIRD.

## SECTION I.

The inquiries, in the preceding parts of the work, have been confined to two objects,—the real import of the relation of cause and effect, and the sources of the general misconception with respect to it.

If I have stated with accuracy the results of the former of these inquiries, we have seen that *power*, in every train of events, material or spiritual, is nothing distinguishable from the antecedents and consequents themselves, of which, and of which alone, every sequence must be composed. It is only a brief mode of expressing the antecedent itself and its consequent, as appearing in a certain order, and expected to appear uniformly in the same order. That which is, has been, and always will be, followed by a particular change, is the cause of that change; and when

we endeavour to imagine, in a cause, more than this uniformity of a certain consequent change, we labour in vain, or we content ourselves with repeating, in new forms of words, that have no other difference than what is purely verbal, the same unvaried proposition, That a cause is that which has had, has, and will always have for its immediate consequent some particular change of which we speak.

Of this uniformity of order in sequence we have a clear conception, and of more than this we have no conception whatever; yet, from the influence of various causes of error, we strive to persuade ourselves, that we do conceive more, and that, beside all the antecedents and all the consequents in nature, there is something to be distinguished from them, in every sequence, which connects these antecedents and consequents in mysterious union: as if, at the moment of creation, there had been thrown over nature, as it rose, some tissue of indissoluble bondage, invisible to mortal eye, and known only to that Almighty Being, who fixed its secret links, and can loose them at his pleasure.

Such a bondage, we have seen, if really existing, instead of presenting to us more than

antecedents and consequents, would be only a complication and lengthening of the sequences of events, by new antecedents interposed. To trace the circumstances which seem most probably to have led to this illusive belief was the object of the second inquiry; and in the habitual influence of some of the forms of language, and still more in the inadequacy of our feeble perceptive organs for discovering the complicated elements in the system of things, and the imperfection, on that account, of the analyses which we are able to make of phenomena that are truly compound, while they appear to us to be simple, I flatter myself that I have pointed out such principles of error as may be sufficient for explaining satisfactorily the prevalent illusion.

It is not enough, however, to have a clear notion of the import of power, as the relation of immediate and uniform antecedence, in the past and the future as well as the present. It is necessary, also, that we should know, in what circumstances this belief, which virtually extends through remotest time the observation of a moment, arises in the mind.

To the consideration of these circumstances, accordingly, we have next to proceed.

## SECTION II.

Power, as we have seen, is the relation of a particular antecedent to a change which we believe to be its uniform attendant.

It involves, therefore, necessarily, the expectation of a future change of some sort, that is to be exactly similar, as often as the preceding circumstances are exactly similar.

Is this expectation the result of experience only? Does it imply always, that the consequent has been known to us, as well as the antecedent;—or is there, in the appearance of the antecedent itself, before the attendant change has even once been observed, what might enable us to anticipate that change, as about to take place in instant succession?

If, for example, we were wholly unacquainted with the phenomena of magnetism, could we, from the mere appearance of a loadstone and a

piece of iron, anticipate their subsequent motion towards each other ;—or, if equally unacquainted with any other phenomena, could we, from the mere appearance of any two substances, anticipate the changes that are to ensue in them, when they are placed in certain circumstances ?

If the mere appearance of any two substances be supposed capable of leading to this anticipation, let us consider, in the first place, what is meant by this very word *appearance.*

It signifies certain qualities observed by us. But what are these qualities themselves ?—We have before us, for instance, a hard mass of a dusky colour ; and we are told that it is a loadstone. When we say, that it is hard, we mean that it has been found to resist with great force our effort to compress it ; when we say that it is of a certain colour, we mean that we have found a certain visual affection to be attendant on its presence. We speak of it as the antecedent of consequents that are known to us ; and what we term the *appearance* of the body, is therefore itself only a short term for expressing certain changes observed. The qualities of which we speak, being only names expressive of effects that are known to us, are exactly co-extensive,

then, with those effects which, as relative terms, they were invented to designate; and it would truly, therefore, be very strange, if these names of qualities, that, as verbal inventions of our own, are expressive only of effects observed, should necessarily be significant also of different effects, that never have been observed, and never were intended to be included in the terms which we invented. If, indeed, what we term Qualities were themselves known to us *à priori*, and were more, therefore, than the expression of the relation of a certain known antecedent, to certain known consequents, the point in question might be assumed as true; for the knowledge of these very qualities would be the knowledge of effects as yet unobserved; and if one quality could thus be known, other qualities, that is to say, the relation of the same antecedent to other consequent effects, might in like manner become known to us, without experience. But, if the reference of the qualities, which constitute what we term the appearance of a substance, be itself subsequent to observation of the effects which those qualities denote, the extent of the observation must be the limit of the qualities. The appearance tells us of relations to our senses,

which are and have been; but it does not tell us of any thing more than is or has been. It is to our senses only that it still continues to speak, and when it has spoken to them, the change of which it speaks must already have taken place.

This negative argument, from the real meaning of what we term the *appearance* or manifest physical character of substances, as always limited to the expression of effects already known, powerful as it seems to me, if fully understood, may yet be too subtile to be readily comprehended, and too obscure, therefore, to produce general conviction.

Let us consider the question, then, in a more popular view of it.

We see a loadstone, and a piece of iron, held before us. We are acquainted with their colour, specific gravity, and all their qualities, with the exception of their magnetic tendency. Could we, from the appearance of the substances, or, in other words, from the qualities or changes consequent on their presence that are known to us, anticipate the unknown effect, which is to take place, as soon as the two substances are left in perfect freedom?

Of what we term their appearance, the colour

may be supposed to form a principal part. The colour of a loadstone, and of iron, is relative to certain visual sensations, which are consequent on the presence of those substances. That they should affect our eyes in a certain manner, is surely no reason for anticipating their motion toward each other, more than their motion toward any other mass of any other colour. Even now, with all our knowledge of this particular fact, we could not venture to assign any colour, as necessarily indicative of magnetic influence, in every substance that is of similar hue; and what we cannot do now, with all our knowledge of this very singular tendency, it surely cannot be supposed that we could do more accurately, before we had any knowledge of it whatever.

Is it from their hardness, that we are supposed to be capable of anticipating the change? Even now, we are incapable of discovering any such relation of specific gravities, the most exactly corresponding; and equally incapable are we of discovering it in any one of the other sensible qualities, or in all the other sensible qualities, of the two masses. Till the happy chance, which converted the loadstone into more than a dense

and dusky clod, we might have gazed on it for ever, without being able to discover that it was the wonderful thing,which we now believe it to be.

Is there any thing in the colour, weight, and other sensible qualities of grains of mustard-seed and grains of gunpowder, which could enable us to predict, that a spark which falls and is quenched on a heap of the one, would, if it had fallen on a heap of the other, have raised it into rapid and destructive conflagration? The youngest boy that ever fired off a squib or cracker, and knew what it was which was whizzing and sparkling about his ears, has ever after known more of this property of gunpowder, than the most profound philosopher could have learned from the most assiduous contemplation of all its sensible qualities,—if, before his contemplation and accurate measurement of these, a philosopher could be supposed to be ignorant of this remarkable property of a substance so familiar.

But these phenomena, it will perhaps be said, are results of powers of a very peculiar kind; and though it may be necessary, for the production of such extraordinary effects, that they should have been at some former time known to us by experience, it does not therefore follow,

that other phenomena, more general than these, might not be within our power of physical divination.

The mutual approach of a loadstone and iron, and the rapid and violent disengagement of elastic fluids in the inflammation of gunpowder, are indeed, it will be allowed, phenomena of a very extraordinary kind. But what is it which this very distinction involves? Is it merely, that we have not been so much accustomed to observe the phenomena of magnetism and explosion, as many other more common events of nature? The difference would be truly a very important one, if experience were believed to be necessary; but it is of no importance to him who denies that necessity. The present argument supposes all phenomena to have been equally unknown; and considers merely, whether, in absolute ignorance of any former sequences of the kind, we yet could have foreseen them as future. The properties which, in consequence of frequent experience, we now regard as the most common, were necessarily, in the first instances of them that were observed by us, as rare, at least relatively to us the observers, as the phenomena of magnetism; and if, therefore,

in the spirit of the distinction that is made, of ordinary and extraordinary effects, it be asserted, that we are incapable of predicting what is extraordinary, it must surely be allowed, that we are incapable of predicting what is not merely extraordinary but absolutely unknown; as every sequence must be, till it have been observed by ourselves, or described to us by others.

But let this distinction, which really admits the very point in dispute, be allowed to be of the force supposed. Let the rarer species of phenomena be considered as unfit examples; and let the phenomena, which are to be taken as instances, be the most familiar that can be chosen.

The most universal and familiar of all phenomena are those of gravitation. Do these, then, when we consider them abstractedly from all former knowledge, seem to admit of readier prophecy, than the mutual tendencies of iron and a magnet, which may be considered only as gravitation of a different and less diffusive species? If we imagine ourselves wholly ignorant of the fall of bodies to the earth, do we perceive, in the colour, or shape, or hardness of a ball which we drop from our hand, any reason to

predict, that it will move downward to our feet? It will be the same, whatever mass of matter we may take, and whatever property of the mass we may select for determining the question. What is most familiar to us, is familiar only because it has been frequently observed. It is experience, therefore, which in every such case enables us to be prophets. We discover, in the familiar substance, as often as it recurs, certain qualities; but these qualities are tendencies only to the very changes, with which the experience of preceding similar changes had made us acquainted.

If our mere senses could enable us to predict phenomena of a kind that had never been observed by us, all men would be philosophers, with very little trouble of philosophising. But the knowledge of the powers of nature is not of such rapid and easy acquisition. There is nothing, in the first appearance of any object, which can lead us to predict with certainty the appearance of a particular object, rather than of any other, as immediately successive: in every case the second phenomenon must have been previously known; and our knowledge therefore is slow, because it does not depend on our senses, which are quick, or on our wishes, which

are boundless, but on the order in which Nature exhibits to us her phenomena, which we must content ourselves with soliciting from her by experiment, and analysing and arranging, as she presents them spontaneously.

Experience, then, is necessary for anticipating the phenomena of matter; and it is not less necessary for anticipating the successions which may be expected, in the phenomena of mind.

In these, indeed, there may sometimes be an appearance of foreknowledge of events, independent of the past; when bodily motions are made, in apparent adaptation to circumstances that are about to follow, before the existence of those circumstances can have been learned from experience. By what complicated muscular action, for example, is the first food of life acquired! Yet we have no reason to imagine, that an infant, who is for the first time applied to his mother's breast, has any foresight of the milky stream that is to flow, when he forms his little vacuum for its reception. The necessary motions are the result of an instinct, unerring, because it is not left to the capricious accidents of human knowledge, and provident and perfect, because it is arranged by the highest wisdom.

In all our other instincts, in like manner, the knowledge is not in us, but in the great Being who formed us. Wherever knowledge is concerned, however, it follows the same laws, whether the prediction be of phenomena of matter or of mind. That the desire of moving his arm will be followed by its motion, is not known to the swaddled babe, till he have had experience of the sequence; and is believed by the impotent paralytic, till his experience be reversed by new trials. The pleasure, which the contemplation of works of intellectual excellence inspires, has never entered into the imagination of the illiterate. The passions of love, ambition, avarice, are *felt* by the lover, the hero, the miser; by others, if the passions have never formed a part of their own consciousness, their nature is *learned* from observation or description, in the same manner as we acquire our knowledge of the serpents and tigers of the East. It is by experience alone we know, that the sight of wretchedness, which causes in one breast no emotion, will melt others into pity, that almost equals in sorrow the grief which it deplores; as it is by experience alone, we know that a flame, which kindles ether, would have been quenched in water.

Without that experience, we might, with equal reason, have supposed that the flame, which was quenched in the one fluid, would have been quenched also in the other; and that pain, unfelt by ourselves, would have excited no emotion in us, or excited it originally in all mankind.

We think, indeed, that our knowledge of the phenomena of mind is less dependent on experience, than our knowledge of the phenomena of matter, because, however diversified they may be in complication and intensity, the great classes of our feelings, and the circumstances which usually induce them, are, in some degree, familiarized to us so early, that we have forgotten the time when the experience was acquired: as parts of ourselves too, they seem more particularly within the province of our internal foresight: while the external world, distinct and independent of us, presents a never-ending series of new objects, which at once, by their permanence, keep our memory alive to the time when they became known to us, and impress on us the difficulty of discovery, by the complicated apparatus which, in many cases, they oblige us to use. Yet, uniform as the mental phenomena in most circumstances must be, how different, even

as to many of these, would be the predictions of individuals, of different ages and countries! No Roman, for example, would have scrupled to foretel, that the combat of gladiators, which was to be exhibited on the succeeding day, would be witnessed with delight by the most gentle and delicate of the virgins of Rome. To a Briton, unacquainted with that mixture of barbarism and civilization, such an assertion would seem scarcely less absurd, than if it had predicted a change in the well-known order of material phenomena. What is called knowledge of the world, is knowledge of the human mind; and, when the address, and nice discrimination, of one who has spent a long life in scenes of business, are contrasted with the artlessness of a child, or even with the simplicity of a retired philosopher, it is impossible for us not to feel, that, like all other physical knowledge, that of our intellectual and moral frame is dependent on experience.

## SECTION III.

In considering the mode in which the belief of power arises in the mind, we have as yet seen only, that it is, in some way or other, dependent on experience. We cannot predict the second phenomenon in a sequence, till the first and second have previously been observed by us in that order.

But experience informs us only of the past; and the relation of power is one that comprehends the past, the present, the future. It is not in the mere appearance of a substance,—that is to say, in the qualities of the substance, which directly impress our senses,—that we discover all the events which are afterwards to be consequent on the introduction of it in new circumstances. Yet, what is it that is superadded to this mere appearance, by the observation of any change, which its presence, in particular

circumstances, has occasioned in some other substance? It is the knowledge of this simple change itself,—of a mere fact, which, however frequently repeated, is limited, of course, to the time, or times, at which our observation was made. All which, in such a case, we can be said to know, is already over; and what is yet to come, is as much invisible to us as if the past had never existed. It is by a process of reasoning, then, that we are enabled, if I may venture so to speak, to see with our mind what is invisible to our eyes, and thus to extend to the unexisting future an order of succession which, as future, is confessedly, at the time of our prediction, beyond the sphere of our observation?

That we do believe the similarity of the future to the past, in all the successions of its separate pairs of phenomena, is not disputed, nor even questioned. The only question relates to the mode in which the belief arises; and whatever may be its source, it is evident that it is not the result of reasoning in the sense in which that word is commonly employed. He who affirms that A has always been followed by B, and will always be followed by B, asserts more than he who affirms merely that A has always been

followed by B; and it is this addition of invariableness of antecedence that forms the very essence of the relation of cause and effect, into the grounds of the belief of which we are inquiring. When we witness any sequence of phenomena, we believe certain matters of fact; when we think of their future similarity of sequence, we believe also certain matters of fact, contingent only on the recurrence of circumstances like those which we have witnessed. The past fact, and the future fact, however, are not inclusive, the one of the other; and as little is the proposition which affirms the one, inclusive of the proposition which affirms the other. There is no logical absurdity in supposing, that the one proposition might be true, and the other not true; however difficult it may seem to us to believe the one without believing the other; and, even while the opposite belief appears thus difficult, we are sensible, that the difficulty does not lie in the strength of an opposite inference of reasoning; for, in that case, we must understand the inference, of which we feel the strength, and be capable of stating it as a ground of argument. When we say, then, that B will follow A to-morrow, because A was followed by B

to-day, we do not prove that the future will resemble the past, but we take for granted that the future is to resemble the past. We have only to ask ourselves, why we believe this similarity of sequence; and our very inability of stating any ground of inference may convince us, that the belief, which it is impossible for us not to feel, is the result of some other principle than reasoning.

The forms of reasoning, indeed, it may still be very easy for us to use in such a case; and we do truly use these forms very frequently in such cases, because, in all of them, we tacitly, as I have said, take for granted the belief of the similarity of the future, as a general fact that is common to our own mind, and all the minds we can address. It is in the extension of this assumed belief to particular cases, and not in the logical establishment of it, that all the semblance of reasoning is to be found. When a chemist shows us a vessel full of a certain gas, and tells us, that the gas immediately quenched a lighted taper which he had plunged in it, we are not astonished, when, after lighting again his taper, to show us the same fact, he prefaces it by saying, that, as the gas had quenched it

before, it will *therefore* quench it now. The two propositions, as to the past and the future, when thus combined, seem to us a very fair logical enthymeme; but they have that appearance only because there is a major proposition assumed without proof,—the general physical axiom, that what has before taken place will in the same circumstances take place again. If this tacit assumption of invariableness in the order of sequence, which virtually comprehends all that is meant by the words power or causation, be disputed, it may, indeed, be absurd to attempt to confute the sceptical disputant, because we may be quite sure, that the belief itself is as strong in the mind of the questioner as in the mind of the asserter of it; but if, instead of being content with this certainty of equal internal belief, we should strive still to prove, by argument, what is only verbally denied, we shall find, that, however strenuous and skilful we may be in the use of the moods and figures of logic, the triumph of reasoning will not be ours, and that we have undertaken to do, what is not difficult merely, but impossible.

The sensible qualities of objects, or at least the denominations which we give to these, are

themselves, as we have seen, only names for the relation of the objects of which we speak to feelings of the sentient mind, that are consequent on their presence; and they are indicative of our belief, that, in the same circumstances, these objects will affect our mind in the same manner: but they are indicative of the belief alone, and not of any process of reasoning in which the belief may be supposed to have its source. When we say of a rose, that it is red, we mean, not only that its presence in light has been the antecedent of a particular sensation in us, but that it will be followed by that sensation as often as we turn our eyes on it. The *redness* of the rose is one of its sensible qualities, comprehensive, in relation to our vision, of the future, as well as of the present and the past. But we must not think that words of our own invention, convenient as they may be for expressing what we believe, are at all explanatory of the belief, which they merely designate. We may say, indeed, that our vision will be affected in a particular manner by a rose, *because* a rose is red; but though to a superficial thinker we may seem to give a reason in this word, a very little reflection will show, that we express

nothing more, in the two consecutive propositions, than if, repeating one proposition in words exactly the same, we had said, that our vision will be affected in a particular manner by a rose, because it will be affected by it in a particular manner. We do not believe that a particular sensation will arise in us, because we have termed a certain object red; but we term the object red, because we believe, that, on its presence in light, a particular sensation will arise in us. He surely assigns no reason, who says, That grass is green, because it is green; and as little does he give a reason for any other feeling, the relation to which is expressed by the name of any other sensible quality, who says, That the feeling arises in our mind, because there is an object without, which has that sensible quality. It is the rise of these very feelings, as I have repeatedly said, which the names of the sensible qualities themselves were invented by us to denote. They indicate our belief of the recurrence of the sensations, on every recurrence of the same external circumstances; but they only indicate the belief without explaining it.

If this be true of the sensible qualities of objects, it is not less true of all the changes that

are supposed by us to take place in nature. When we say, that a loadstone will continue to attract iron, because it is magnetical, we as little assign a reason, as when we say that a rose, on which we gaze in the sunshine, will excite in us a particular visual sensation, because it is red. What we term the *magnetism* of the iron is itself only a name for our belief of the continuance of its tendency to approach a loadstone; as *redness* is only a name for our belief of the continued tendency of the eyes, and, indirectly, of the mind also, to be affected in a certain manner, on the presence of a rose, or of other similar objects. We seem to assign a reason verbally; but what seems to be reasoning, is only a repetition of the belief itself, of which we give no other account, than that it is truly felt by us.

## SECTION IV.

The relation of future antecedence and consequence of phenomena, which, as future, are beyond the sphere of our immediate observation, is one which I have endeavoured to show that we are incapable of inferring, by any process of reasoning, even after experience. If this be true of the future sequences of phenomena with which we have been most familiar in the past, it may be supposed to be still more indubitably true, of phenomena with which we are wholly unacquainted. To the general inability of inferring future events, however, it has been supposed, that some limitations are to be made, and limitations that extend to classes of phenomena, as much when they are wholly new to us, as when they have been frequently observed.

This predictive power of physical inference, in the cases to which I allude, has been asserted

chiefly by philosophers, who have been much habituated to mathematical speculations, and who, in the beautiful relations of proportion, which their geometrical or algebraical reasonings have evolved, and the equally beautiful applications of these to the mechanism of the universe, have not always been sufficiently careful to distinguish, in the mixed science, what is mathematically new, as a measurement of force, and what is physically known, or assumed, in the existence of the force that is measured.

It has been contended, accordingly, by some of the profoundest thinkers of this class, that, however truly our knowledge of the greater number of facts, in physics, may be said to be derived from experience, so as not to have been acquirable by reasoning *à priori*, there is a very extensive class of facts which are altogether independent of experience, and of the laws of thought immediately connected with experience, and which are, therefore, capable of being inferred, before observation, with complete and independent certainty of the result.

The Inertia of Matter, and the phenomena of the Composition of Forces, and of Equilibrium, have been urged as instances of this kind.

Let us consider, then, with what accuracy the truths relating to these physical phenomena can be said to be wholly independent of experience, and of the laws of thought immediately connected with experience.

I must remark, in the first place, that, in the determination of this point, all abstract reasoning of *pure* mathematics is, by its very nature, excluded. The mathematical sciences, strictly, are confined to the relations of number and quantity. They are in the highest degree useful for measurement; but they always take for granted the quantities, whatever they may be, of which they are to develope the proportions. Accordingly, the discoveries which they afford, in the boundless field which they open to inventive genius, splendid as they may be, and worthy of rewarding the noblest exertions of intellect, are discoveries of proportion only, and imply, in every physical application of them, the previous knowledge of that which they measure. Masses and Times, as measurable quantities, come fairly within their sphere; and, therefore, Velocity, and that compound of Velocity and Mass, which we term Momentum. But, though they measure momentum, when the moving force is considered

as existing, they do not give us our notion of it, because they are wholly unable to give us any notion of force itself. They proceed on the previous knowledge, that bodies in motion communicate motion to other bodies, in a certain compound ratio of the mass and of the velocity: and if this fact, strictly physical, were unknown, there would truly be no momentum to which the mathematician could apply his scale of intellectual measurement. Whatever is expressed by the word Force, then, must be supposed, before we can avail ourselves of geometry or arithmetic, to compare one force with another. If there be nothing to be measured, there is no opportunity for mathematical reasoning; and if there be something to be measured, it is not to the science of measurement that we owe our knowledge of it, but to some other source.

The present question has no relation to the measurement of forces previously recognized as existing, but to our knowledge of forces or tendencies that are to be measured. It is not whether, if we take for granted certain mutual affections of bodies, we can compute their degrees of incipient velocity, or the accelerations or retardations of motion that may result from

them, but whether the mutual affections themselves, that are the subjects of computation, can be predicted, in any case, independently of experience.

If mathematics be only another name for abstract measurement of quantity, the arguments, which are supposed to enable us to make this prediction, as to any change in bodies, and, therefore, as to every *force*,—which is a word expressive only of antecedence to change,—cannot be the developments of mere proportion, but must be arguments more strictly physical than mathematical.

I must remark, also, before entering on the more minute inquiry, that the facts to which the question relates, are *physical* facts,—sequences of events, not such as might be supposed, in a world constituted in any other manner, or in a world of which all the conditions and possibilities of change were known to us, but such as truly take place in the present system of things, of which we never can be certain that we know all the conditions, and know only, that more and more of these, in the progress of science, are continually revealing themselves to our experience. It is not with abstract

quantities, therefore, nor with physical points, but with *bodies*, such as exist around us in masses capable of affecting our senses,—since in these alone we are capable of perceiving changes,—that we are in the present argument concerned; and with respect to them, and them only, we have to consider, whether any of the phenomena that are supposed to form exceptions to the general necessity of experience for knowledge, are so truly exceptions, that the phenomena, though wholly unknown to us before, could have been predicted by us with demonstrative or undoubting certainty. This remark is the more necessary, because, without such a careful limitation of the argument to the phenomena of existing things, we might often be in danger of confounding the abstractions of mathematics with the physical realities, which alone exhibit the appearances that are the subjects of our inquiry.

Let us consider, then, in the first place, the phenomena that are comprehended under the general term of the *inertia* of matter,—the continued rest, or the continued uniform motion of bodies, when undisturbed by any foreign force.

Continued rest, and continued uniform motion, when all the previous circumstances have remained the same, are not more wonderful than the uniformity of other phenomena of any other kind, in unaltered circumstances. I have already frequently stated, what seems to me to be essential to our belief of causation of every species, and to be all which is essential to it,—the indefinite extension of regularity of sequence, by which we transfer to the unobserved future the results of observations that are past. It is a law of thought, in short, co-extensive with observation itself in all its variety, that from similar circumstances we expect similar results. In this faith, which is itself wholly independent of reasoning, the belief of the inertia of matter may be said to be involved. It is only the development, in relation to a particular set of phenomena, of a general principle, which extends to all the phenomena of nature. If, in any attempted demonstration of the inertia, we have already assumed this principle, the demonstration itself must be superfluous, because it must proceed on the truth of that very belief which it professes by argument to establish;—and if we make the attempt, without assuming

it, the demonstration, as I conceive, will be beyond our power.

That the assumption should be readily, and almost unconsciously made, is the natural effect of the universality of the principle. Before we can know what is meant, by the tendency of a body to remain at rest when undisturbed by a foreign force, we must previously have observed a body at rest: we suppose a certain condition of the body; and the supposition, which excludes the disturbance by any foreign force, takes for granted, that the condition continues unaltered. If the circumstances, therefore, be the same, as when rest was before observed, it is not more wonderful, that we should expect the next moment to exhibit to us, in the quiescent body, the same rest, than that we should believe an antecedent of any other kind, as often as it recurs, to be followed by any other phenomenon before observed as its consequent. There is nothing, in the continued repose, to distinguish it from any other case of physical uniformity, in which similar circumstances are the result of similar circumstances.

To that universal principle, then, which is co-extensive with our belief of causation in all

the physical succession of events, the belief of the continued rest of bodies, as one of the innumerable species of phenomena which it comprehends, admits of being easily reduced; and a demonstration, which professes not to proceed on it, will yet, very probably, be found to assume it silently, and to derive from that silent assumption, or at least from the previous belief in the mind of the reader or hearer, a force which its own professed ground of argument would be inadequate to give it.

Let us consider, for example, the principle on which D'Alembert would found his demonstration of it.

"A body at rest," he says, "must continue in that state, till it be disturbed by some foreign cause; for it cannot determine itself to motion, since there is no reason why the motion should begin in one direction, rather than in another."*

In this application of the principle of the Sufficient Reason, as in other *physical* applications of the same principle, there is much more

* *Traité de Dynamique.* This argument, though I quote it from D'Alembert, is the common argument of philosophers who consider the inertia as physically demonstrable.

assumed, than the philosophers who apply it are entitled to take for granted.

Even as a general principle in physics, if we consider it abstractly, without regard to any particular application of it, the principle of the Sufficient Reason seems to me, as far as it has any force, to be only a partial statement of the more general physical axioms. That *every change must have had a cause*, and that *circumstances exactly similar have results exactly similar;* —axioms which comprehend, indeed, all the sequences of events in the universe, but which, though applicable to them all, do not give us the slightest aid, for determining, independently of experience, the nature of any change—the particular antecedent of any consequent, or the particular consequent of any antecedent.

The cause of this inapplicability of the principle of the *Sufficient Reason* to the unknown circumstances, to which it is falsely supposed to be applicable, is expressed in the very words which are employed in giving it a name; since, in every case, the condition of sufficiency, which those words express, can be known to us only by that experience, the necessity of which the very argument that is founded on it is yet

strangely supposed to preclude. Unless we take for granted, that we know all the conditions of existing things, with all their mutual influences, there is no situation, in which we can truly determine whether circumstances, that appear to us equal, be in every physical respect as truly so, as in our state of limited knowledge they appear to us; and therefore, whether a sufficient reason for any change whatever be not actually existing, when we suppose that there is none. What is, or is not, a sufficient reason, experience, and experience only, can shew: and if we exclude the necessary influence of experience, and suppose that, independently of it, we can make some physical prediction, on the mere principle, that in the various supposed possible conditions of change every thing is perfectly equal, and that no one of the changes supposed, therefore, can take place, because there is no reason why it should take place rather than any of the others, we take for granted, in all the conditions of that particular case, a real equality, and consequently the absence of a sufficient reason for some one of them more than for the others, which we have no means of knowing, but by

the very experience that is excluded. We believe, indeed, that a body will not quit its state of rest, if all circumstances continue the same; for this, from the influence of that general law of thought, which directs our physical anticipations of every kind, it is impossible for us not to believe; but, if the irresistible force of this general faith be laid wholly out of account, and if, in affirming, that it cannot quit its state of rest and move in one particular direction, our *only* reason be, that we see no cause why the body should not begin equally to move in some other direction, we, in the very supposition that the motion in the particular direction is without a sufficient cause, beg the question, which we yet profess to demonstrate. If we could suppose our only knowledge of nature to be, that a certain body is at present at rest, and that there are various causes of motion, of the nature of which we are ignorant,—which is the state of mind that should be conceived by us, when we think of the prediction of the inertia as independent of experience,—how can we presume that we know, at any moment, what physical circumstances may, or may not, be about to determine some particular motion of

the body, since we are equally unacquainted with the efficacy or inefficacy of all the circumstances? And if we suppose ourselves to know, previously, the efficacy or sufficiency of some of these circumstances, and the inefficacy or insufficiency of the others, why, since we must in that case know, before any reasoning from the abstract principle, whether a change is or is not to take place, do we ascribe to the result of the subsequent reasoning the knowledge which was essential for the understanding of its very conditions or terms?

When all the affections of matter are by supposition unknown, all sufficiency, or insufficiency, for the production of change, must be unknown. We may err in affirming either; we may err in denying either: and as it is experience only which can shew whether we have erred, it is experience only which could have entitled us to make with confidence the primary affirmation or denial. The knowledge of a single fact additional may shew that to be powerful as a cause, which we before conceived to be powerless. If we had been wholly unacquainted with magnetism, we should probably, or, I may say, certainly, on observing a load-

stone carried near to a piece of iron which had been remaining for hours or months at rest, have denied that there was any sufficient reason for the incipient motion of the iron, which a few moments would soon shew us, and which, having witnessed it as a fact, we then could not fail to believe to have had an adequate cause. In a world of pure fancy, it is easy to imagine conditions that are perfectly equal, because the conditions themselves, in that case, are whatever we may have chosen to make them. But the physical influences, which actually surround us, must reveal themselves before we know them; and, till they are revealed in the changes which they produce, the conditions that seem to us perfectly equal may, as I have already said, have the utmost inequality. Whatever probability, then, in any new combination of circumstances, the principle of the Sufficient Reason may seem to afford,—a probability increasing as our knowledge of the general affections of matter increases,—it never can afford, in physics, a ground of demonstrative prediction, till we know all the causes which have influence in nature; and *when* we can suppose ourselves to have acquired this knowledge,

the application of the principle of the Sufficient Reason must be superfluous, since we should then be able in every case to predict, without it, the very phenomena, with the future sequences of which it is supposed to be necessary for making us acquainted.

This argument appears to me of itself decisive, as to the absolute inefficiency of the principle, for any primary physical demonstration. If we know all the physical influences that exist in any case, we know already what the application of the principle of the Sufficient Reason is supposed to reveal to us; and if we do not know all the physical influences that can operate in the case, we do not know the equality or inequality of the conditions, and consequently are incapable of applying the principle.

But, even though the force of this argument,—which reduces the predictive inferences that are founded on the supposed absence of a sufficient reason, to mere assumptions of the very point in question,—were laid out of account; and the principle were admitted to be fairly available for physical demonstration; is there no other objection that could be made to this particular application of it? Do the conditions, which are

asserted to be equal, exhaust every possibility of change, even as far as we at present know those possibilities; or is there not a state, different from that of rest, which is not included in them, and to which the principle, therefore, cannot be applied?

The argument, it will be remembered, relates to *bodies* such as exist around us, and not to points or mere abstractions of the mind. It is not a mathematical, but a physical truth, which we are considering; and the question is, whether, of any of the bodily substances in the universe, we could predict the continued rest, by the argument of the Sufficient Reason alone,—without including in the demonstration that more general principle, to which I refer our belief of the inertia of matter, and of every other similar result of similar circumstances.

Every substance, to which we give the name of a *body*, as existing before us, and capable of exhibiting to us the phenomena of *inertia*, is a substance extended and divisible. It is truly what may be termed a mass, and not a mere physical point, which, as it would be incapable of affecting our senses, could not exhibit to us

either the reality or unreality of the inertia of which we speak, nor be the object of physical knowledge of any kind.

Such a body is supposed to be at rest before us; and it is affirmed that, but for the operation of some external force, it must remain for ever at rest,—not because the circumstances are the same, as when rest was observed before, and the same antecedents are always followed by the same consequents, which would indeed be a valid reason,—but because, if it begin to move, it must move in some direction, and there is no sufficient reason, or, in other words, no reason whatever, to determine the motion in one direction, rather than in any other.

This equality of all the circumstances of change, and consequent exclusion of any particular motion, might perhaps be true, if there were no other possible conditions, than absolute rest, or equal and uniform motion of the body as a mass. But there *is* another possible form of change, which the supposed demonstration has neglected, and which renders the argument, therefore, inapplicable to the physical system of things, however applicable it might be to atoms or mere *points*, the very existence of which, as

mere points, or atoms, our senses are wholly incapable of discovering.

It is not necessary, for the interruption of its continued rest, that a body should move uniformly forward, as one great mass: it is compounded of various elementary atoms, and those atoms which compose it may tend outward, equally and uniformly, from the centre. A change, in short, may take place in the quiescent mass, similar to what we term explosion, when a mass of gunpowder, previously at rest, is kindled. There is then no particular motion of the gaseous particles, east, west, north, or south, but motion in all these directions; and, though there is no violation of the principle of the Sufficient Reason, there is certainly as little inertia, or continued rest, in the explosion, at the moment at which the expansion or divergence begins to take place, as if the whole mass of gunpowder had suddenly quitted its state of repose, and rushed forward in the direction, in which a few of its particles are proceeding.

But a mass of gunpowder, it will perhaps be said, does not explode, till it be kindled, and, but for the spark which kindles it, might have

remained at rest for ever. The remark is a just one, and might be of weight in the present case, if the argument had related to the particular cause of the explosion, or if it had been asserted, that there is no inertia of matter, and that changes from rest to motion may take place, without a cause. This, however, is not the point in dispute. I do not deny the inertia; on the contrary, it appears to me to be as indubitable, as any other instance of the regularity of events. It is not the fact itself, as a part of physical experience, but the justness of the inference which is supposed to demonstrate the future fact, independently of experience, that is the subject of argument. Whether there be, or be not, a cause of the explosion of gunpowder, is of no consequence, then, to the only point in question. The explosion itself,—or, in other words, the beginning motion of the particles that were before quiescent,—is all which we have to consider; and it shews satisfactorily, that all the possible changes of state from that of rest are not exhausted by the supposition of the various lines of direction in which a body can move as a whole undivided mass. To the rapid divergence of the gaseous

particles, in the moment of the kindling, the principle of the Sufficient Reason is not applicable, for precluding the possibility of incipient motion; because the motion is truly expansive in all directions: and as little, therefore, would it be applicable to the same incipient motion, if it had taken place in any other way, with a cause, or without one. In explosion, particles, before at rest, begin instantly to move. That this change takes place on the contact of a spark, and would not have taken place, if a spark had not fallen on the inflammable heap, are facts which we learn from experience only, and which the principle of the Sufficient Reason never could have taught us. It is with the application of *this* principle alone, that we are concerned. We do not suppose that, if the circumstances remain exactly the same, a body which has remained at rest, however rapidly inflammable in other circumstances, will explode of itself. But the supposition of this sudden motion of the particles appears to us absurd, not because the principle of the Sufficient Reason excludes the possibility of a change of state, by the absence of a cause of motion in one direction rather than in another,—since, without any

violation of that principle, the diverging particles might at the same moment begin to move from the centre in all directions,—but for the more powerful general reason, already stated, as applicable to phenomena of every species,—the belief, which it is impossible for us not to feel, that, when the previous circumstances, in any case, are exactly the same, the resulting circumstances also will be the same.

Such, as it appears to me, is the principle, to which we are to reduce the belief of the inertia of bodies, as far as relates to the phenomena of their continued rest:—and so inadequate, I may add, is the argument, that would endeavour to demonstrate it, without the assumption of that more general principle.

Let us next consider the belief,* as it relates to the other case of inertia, in the continued motion of bodies, with the same velocity and in the same direction, when there is no disturbance by a foreign force.

With respect to the belief of this law of bodies, there is a difference, with which every one must have been struck, in the slowness of

* Note I.

assent with which it is first received, compared with the readiness with which the inertia of quiescent bodies is admitted.

Of this difference the cause is sufficiently evident. The continued rest of the masses around us, till a force be applied to disturb it, is obvious as it were to our very senses; or, at least, there is nothing apparently inconsistent with it, in any of the phenomena which we observe. But with the other species of inertia, the observed phenomena, however really congruous, are apparently inconsistent; the velocity of bodies being continually retarded by friction and atmospherical resistance, and the tendency to rectilinear motion, when above the surface of the earth, being continually changed by the deflecting influence of gravitation. It hence becomes difficult for us to decompose in our imagination the mixed result of many concurring influences; and, since it is of the concurring influences alone that we have uniformly had experience, it is not wonderful that we should sometimes err, in considering that as a simple effect, which is truly compound. We do not perceive the uniform motion, as we perceive the continued rest: and accordingly we

find, that those who readily assent to the proposition,—that a body at rest will for ever remain at rest, unless put in motion by some force applied,—are very incredulous, when they hear, for the first time, that it equally requires an application of force, to prevent a body in motion from retaining its velocity for ever.

Let us consider the doctrine itself, however, without regard to this illusive difference.

The expectation of the continued motion of a body may be considered differently, according as we are supposed to know only a single instant of the preceding motion, or several successive instants.

In the latter of these cases, if we know that the motion, in one direction, and with one velocity, has been immediately followed by motion, in the same direction, and with the same velocity, during the successive instants, the case is fairly reducible to that general principle, to which I have already reduced our belief of the other species of inertia. From circumstances exactly similar, we, in every case, expect results exactly similar; and accordingly, in this particular case, we expect continued motion in the same direction, and with the same velocity, as

long as no change of circumstances takes place. We are supposed to have already had experience of the antecedent motion and the consequent motion; and the antecedent being present, we may well be supposed to expect the consequent, as before.

But if motion, the very conception of which implies always the conception of some time, could be supposed to be known to us, as the state of a body in a single instant, and if we knew nothing more, than the space which the body had in that instant traversed, without the slightest knowledge of the moments preceding, or of any physical facts whatever, except the existence of the mass, and its passage in the briefest conceivable interval of time, from one point of space to another,—it does not appear to me, that the inertia could be demonstrated, or that there would be even the slightest reason for expecting it; unless from the influence of that general faith in the continuance of similar results of similar circumstances, which would imply, perhaps, a wider observation than so brief an interval could give, and which, at any rate, must be precluded, when the inference is supposed to be wholly independent of experience.

Let the circumstances, however, be considered by us a little more minutely.

Why should a body that has been one instant in motion, not stop in the succeeding instant; and, if it continue to move, why should it move with the same velocity, and in the same direction?

In the first place, Why should not the motion of one instant give place to rest?

There seems no reason whatever why this should be disbelieved by us, unless when we consider ourselves as looking back over a series of instants; when, of course, from our general belief of the uniformity of antecedence and consequence, it appears to us physically absurd to suppose, that the same antecedent motion which we have observed should not have the same consequent motion, which we have also observed. If we imagine a single instant only, independently of all prior observation or other means of knowledge, the state of a body in motion seems as fit to be the antecedent, at other moments, of the state of rest, as of the state of motion; that is to say, we are as much ignorant of one fitness as of the other. If, at the moment of supposed transition from *rest* to

*motion,* without any foreign force, the argument of the Sufficient Reason was supposed to be necessary to demonstrate the impossibility of the motion, and in this way to establish the necessity of the consequent inertia,—it must be remembered, that, in the opposite transition, which we are now considering, from a single instant of *motion* to a succeeding instant of *rest,* there is no room for the application of that argument, even though it were allowed to be admissible and valid in the other. There is, in the change to a state of rest, no concurring number of equal conditions, the equality of which must be violated by a determination to one of them. Rest has no opposite or varying lines of direction, like motion. It is a single state, which is, or is not,—without any possible variation. We do not believe, indeed, as I have already said, that motion will suddenly cease, without some foreign force to suspend it; but our only reason for the disbelief is to be found in the law of thought, which I have already stated;—a law which, far from excluding experience, takes it uniformly for granted, and supposes, in this particular case, that the motion, which we expect to be continued, has been

observed by us, in some former instant, as the consequent of similar antecedent motion.

Let the possibility of a direct change from motion to absolute rest, however, be forgotten; and let us consider the other questions, which the continued motion admits.

In the first place, why should the motion be continued with the same velocity?

That, even after experience—at least after such experience as the complicated action of things, in the motions with which we are most familiar, affords,—there does not appear to be any primary absurdity, in the supposition of a continued diminution of velocity, is shown by the universal faith of the multitude in this tendency to decay, as an essential property of motion,—a faith, which philosophers would undoubtedly have shared with them, but for the analyses, which have shown them the resisting and retarding forces, that are not considered by ordinary observers, who remark only, that every motion, which it requires a considerable force on their part to produce, seems to die away of itself. There is nothing, then, which seems at first view absurd in such a belief; and the absurdity, which appears on reflection, is nothing

more than its inconsistency with facts observed by us, in the motions of the great bodies that are moving freely through space, and in the resistances of friction and atmospherical reaction, to the various degrees of which we find the loss of velocity, as greater or less, to be proportional. It is a more extensive and minute experience, but still it is experience only, which shows the error of the popular belief; and the more abstract arguments, in disproof of the possibility of a gradual decay of motion, are arguments that assume the very point which they should prove, or, if they do not assume it, are arguments that are founded upon nothing.

It is not necessary, for a change of state or interruption of its inertia, that the velocity of a body in motion should be suspended or retarded. It may, on the contrary, be increased:—and what reason, independent of experience, can prove this to be absolutely impossible? It might appear a very natural supposition, at least before we reflect on it deeply, that as, in the fall of a body to the earth, we have a continual increase of velocity,—from the addition, at every moment, of the velocity previously acquired to that which would flow as before from the original

force of gravitation,—so, in impulse, or by any other cause of incipient motion, a certain state of tendency to motion might be induced, which would be permanent itself, like the continued gravitating influence, and receive accessions at every moment, from the very velocity to which itself had given rise. We know, indeed, from experience, that this is not the case ; but if experience had been different, our physical anticipation of the future would of course also have been different. If the velocity had increased directly as the times, or as the squares of the times, or in any other ratio, we should probably have found as little difficulty as now in accommodating our general reasoning to the physical facts.

I have said, that the supposed demonstrations, *à priori,* of the continued uniform velocity of moving bodies, are either without any foundation at all, or assume the very truth which they should prove.

When D'Alembert* attempts to show, that "the motion must be uniform, *because* a body cannot accelerate nor retard its own motion,"

* Traité de Dynamique.

he obviously takes for granted the very point in dispute,—if we strip the phrases which he uses of their active sense, and, instead of saying that a body cannot retard its own motion, say, more intelligibly, that the velocity of a body cannot grow less. His argument is truly nothing more than that the motion cannot grow less, because it cannot grow less: for, though he professes to deduce the impossibility of the retardation from the proof which he considers himself to have before given of the inertia of bodies at rest, it is not easy to see, even though we were to admit the reasoning in the one case to be just, how the truth of what he states as a corollary, can be said to be involved in the truth of the primary demonstration. That a body is not capable of *beginning* motion of itself, is one proposition; that, *when* put in motion, it cannot return to its original state of rest, is a very different proposition. The one alone certainly does not prove the other; for the one might be true, and yet the other be false: nay, perhaps, independently of experience, the very sluggishness of matter, which renders the application of a force necessary to give it any motion, might seem,—and to common observers, who have not made the necessary

analysis, which shows the operation of external retarding forces, has always seemed, a cause rather for belief than disbelief, of a natural tendency in bodies to return readily to the same state of rest.

By Euler, two * demonstrations are given,—both founded, more or less directly, on the principle of the Sufficient Reason.

In the first place, he contends, that a body in motion must continue to retain one uniform velocity, because, if the velocity were to *decrease*, it would tend ultimately to rest, which, he thinks he has shewn to be impossible: and if it were to *increase*, it must admit of being traced backward to a state of rest, as the point from which the progressive velocity began; which, he thinks, is not less absurd.

In the former of these suppositions, the proof evidently depends on the force of the argument, that a body, once put in motion, cannot of itself subside into a state of rest. How then, we may inquire, is this proved? It is because, if the gradual decay of motion were possible, it could not be said of the body, when it had arrived at the state of rest, that it had been

* Note K.

before in a state of permanent rest, which must be true of every quiescent body, that has been free, during the time of which we speak, from the action of any foreign force. And why must this be true of every body in repose? Because, if it were not true, the body, before it stopped, must have been proceeding in some direction; and, in the variety of possible lines of direction, there is no reason why we should suppose it to have come in one of these rather than in any other.

Such is the argument, when stripped of that pomp of mathematical phraseology, which often throws a sort of venerable disguise over physical error. The very words Theorem, Scholium, Corollary, have been so constantly associated with the feeling of abstract truth, that, even in physics, by a very natural illusion, they seem to extend the same feeling to facts which they rather take for granted than prove. But, though the argument may have all the decoration and authority which these mighty words can give it, it is, surely, not of a kind that can afford conviction to any one, who thinks less of the mere forms and phrases of demonstration than of the real meaning which those forms and phrases convey.

To say, that motion cannot gradually cease,—if nothing more were said,—would be evidently to beg the question. But to say, that it cannot cease, because, if it were to cease, the body could not have been at rest the moment before, is equally to beg the question, though it is to do this with the semblance of reasoning. If the velocity of a body in motion be susceptible of gradual diminution, till it ultimately subside into repose, then it is not necessary that a body at rest should have been equally at rest the moment preceding; and we must look elsewhere for a proof of this necessity. Now, the only proof, which EULER offers, is little more than a number of words. The motion, which is supposed to terminate in rest, must indeed, as he says, have been in some direction, and we may be wholly ignorant of the cause which determined the motion to be in that direction rather than in any other; but, if our only knowledge were of the two phenomena, which the body is supposed to exhibit, in its state of motion and its subsequent state of rest, it would surely be a very strange error in logic, to contend, that, because we do not know any determining cause of the motion, in the particular direction in

which it came, there was, therefore, no motion in that direction, or no sufficient cause to determine it. To what is it that the theorem relates? It is strangely forgotten by EULER, that, in the very case imagined, the objection which he states must be wholly or conditionally abandoned, before the terms of the proposition which he enunciates can be understood. The theorem, which he endeavours to establish, is that in which a certain absolute motion * is supposed, which must, of course, be in some one direction, and not at once in many directions, and must therefore have had a cause to determine it in that particular direction; and the question relates to the possible diminution of the velocity of the motion thus existing, and therefore previously determined. It is vain, then, to found a demonstration of the impossibility of the decay of motion, on an argument, which proceeds on conditions completely different,—on conditions of such perfect equality in all the different tendencies to motion, as would disprove the possibility of the motion itself, which the very theorem assumes. Unless we suppose a body

* Corpus absolutum habens motum æquabiliter perpetuo movebitur, &c.

actually in motion, the theorem is not comprehensive of the particular case; and, if we do suppose a body actually in motion, the principle, on which the demonstration ultimately rests, is not applicable to the particular case. The dilemma appears to me to be one which it is not easy to obviate or elude. We may take one view, or we may take the other view, of a certain determinate existing motion, or of no motion whatever; but we cannot take both: and, whichever of the two views we may prefer, it is evident, that the supposed demonstration is nugatory.

Such, then, is the defect of the argument, as applied to the case of supposed retardation of motion; and, as applied to the opposite case of supposed acceleration of motion, it has exactly the same defect. The velocity, it is said, cannot increase; because then it must have sprung from absolute rest. The necessity of that origin is surely not very evident; unless every other source of motion, but absolute rest, were excluded. The initial velocity of a body, which may be of various degrees in various circumstances, may be communicated by the impulse of another body, or by some other

cause equally powerful, that excludes the supposed absurdity of the beginning of motion, as it were spontaneously, from absolute rest. Now, it is exactly a case of this kind—a case of motion actually begun, and therefore not proceeding from a cause which is said to be incapable of producing motion—that must be considered by us, in the theorem: and unless we suppose the motion as existing, and as having had, therefore, a sufficient cause of its particular velocity, it would be vain to think of the theorem at all. It might be perfectly true, therefore, that rest could not, in any circumstances, be the immediate source of motion, and that hence every motion, which it was demonstratively necessary to trace back to absolute rest as its cause, might justly be said to be impossible; and yet it might be true, that *when* motion *was* induced by any adequate cause, the velocity might proceed in a ratio of continual increase. Whether there be or be not such a tendency in bodies in motion, to an acceleration of their velocity, is a matter of observation, not of abstract reasoning. But if it be absurd to suppose, that motion should begin from rest as its source, it must always be remembered,

that this origin is excluded by the very terms of the theorem, which, in supposing the body to be in motion, supposes of course that the motion has not had a cause which it would be absurd to imagine, but an adequate cause; and that, even though the velocity were truly progressive, it would be unreasonable, therefore, to argue as if it were necessarily to be traced still farther back, than to that incipient motion, whether rapid or slow, which was primarily communicated to the body; since the conditions of the theorem are far from requiring this, and, if they required it, would demand what the demonstration itself was to prove to be impossible. A case of existing motion is the case supposed; and that existing velocity, whether produced by direct impulse or in any other way, *might* be susceptible of continual increase, *though* it were most satisfactorily demonstrated, that, till the application of some force from without, there could be no motion whatever.

The other demonstration, which EULER has given, is not more satisfactory. The velocity of a body, moving freely in infinite space, must, he says, be uniform; because, if we consider the line of its motion, there is no reason why its

velocity should be greater, in one part of the line, than in any other part of it. This is truly nothing more than to say, that the velocity of a moving body is not greater in one part of its course than in another part of it, because the velocity of a moving body is not greater in one part of its course than in another part of it. If we primarily beg the question,—that is to say, if we take for granted, in the first step of the reasoning, that the motion of a body in free space must continue uniformly of the same velocity,—we surely do not need any argument from the Sufficient Reason, *founded on this very assumption*, to prove to us, in the second or third step of it, what, in the first step, we must already have assumed as indisputable: and if we have not made this primary assumption, then, it cannot be said positively, as a ground of proof, that there is no reason why the velocity of a body should be greater in one part of its course than in another, since the very tendency of motion to become progressively less rapid, if that tendency were truly a physical property of moving bodies, would be itself a sufficient reason for the retardation supposed. Whether there be such a tendency, experience

only can shew; and, if we deny the necessity of experience for shewing it, and think ourselves entitled in our reasoning to proceed on positive disbelief of the tendency, we surely cannot think the reasoning, which proceeds on it, at all necessary to substantiate our previous disbelief. The argument, I repeat, is superfluous, or worse than superfluous, if we take for granted, as the foundation of the argument, the very truth which it is to prove; and if we do not take the truth for granted, then the very principle of uniformity or equality, on which the whole argument is founded, would itself stand in need of proof,—being truly only another form of the physical fact, to which the whole question relates.

It has been contended, in an argument in some degree similar, that the velocity of a body moving freely must be uniform, because, where every foreign force is by supposition excluded, there is no condition involved in the nature of the case, that determines the progressive change of velocity which is supposed, so as to enable us to rank it as of any particular degree, either of acceleration or retardation. But an argument confessedly founded on our ignorance

of the circumstances that determine the future, is surely not an argument which seems well fitted to convince us that we can predict the future, and can predict it for the very reason, that we are ignorant of its circumstances or conditions. It will be admitted, indeed, that there is no condition, involved in the case, that enables us to submit to any calculus a change of velocity, which, if real, is as yet unobserved: but it must be admitted, also, that there is no condition involved, which renders it necessary to suppose the velocity to be uniform. It is not the assertion of an actual change, but the assertion of the mere *possibility* of an actual change, which the argument has to meet. We are ignorant, before experience, whether the velocity be or be not uniform; and the difficulty of the anticipation arises from this very ignorance. It is not more logical, therefore, to contend, that the velocity, of which, as altered or unaltered in the future, we are equally ignorant, cannot become less, because we cannot state the degree of retardation, than it would have been to contend, before any experiments were made on the solvent power of water at different temperatures, that at all temperatures it must be

capable of dissolving exactly the same quantity of any salt, because the chemist who first doubted of this uniformity was not able to state the precise degree of increased or diminished power, where, in his state of doubt rather than of belief or disbelief, he was not certain that there was any increase or diminution to be measured. The course of nature does not depend on calculations which we make; but our calculations must conform themselves to the facts which we observe. If there really were, therefore, a tendency of motion to decay, it would not be either more or less true, though we were never to observe it; and the rate of progressive retardation might be perfectly determinate, though, *before experience*, we might be incapable of ascertaining and stating it, or even of imagining any other physical condition, with which it might be supposed to correspond.

The arguments, already considered, have related to the uniformity of *velocity*. To demonstrate the uniformity of *direction*, the principle of the Sufficient Reason has been in like manner called in; and it has been maintained, that the motion cannot deviate from a straight line, because there is no reason why the deviation

should be in one direction, rather than in any other.

To this application of the Principle, the same objection may be made, as to the application of it, in the case of the inertia of bodies at rest; and a brief notice of it, therefore, may be sufficient now. Without a perfect knowledge of all the physical influences of things,—which we do not possess, and which, if we did possess it, would render wholly superfluous the very reasoning that is supposed to proceed on it,—it is impossible for us to tell, what influences may or may not be sufficient, for the deflection of a body in one direction rather than in any other. It is not of what we see around us only, that we are to think: for the deflecting influence may be that of substances indistinguishable by our senses; as it may be that of substances in which we have never suspected such an influence. If a body, like one of the planets, were moving freely through space, and a similar orb were supposed suddenly to come within a distance from it, like that of the sun from the farthest planet of our system, it would appear to us, if we were wholly ignorant of gravitation, that the body, which we were first considering,

would still keep one uniform direction, because the mere existence of a distant mass could not be a sufficient reason for determining a change of its course :—yet how false, in that case, would our reasoning be ! Of all the motions, which are at any one instant taking place in the universe, there perhaps is not one, which is completely rectilinear, as resulting from a single influence. Within our own solar system, at least, we have every reason to suppose, that the deflection is unceasing, and that every atom is modifying the direction of every atom. Innumerable influences, therefore, in all varieties of position near and remote, are continually operating together, the determination of which, with perfect exactness, in relation to every change of every species, is a problem of which the conditions are beyond the reach of our limited faculties. When we can imagine ourselves to have solved this most comprehensive of all problems, we may then indeed take for granted, that certain motions supposed cannot have taken place, because there was no sufficient reason for determining them: but, till it be solved, we cannot be permitted to argue as if we had truly solved it. In every new case, though we may be

aware of many influences that appear to us equal, we may yet be ignorant of others, of which a single one may be sufficient to destroy the equality that is supposed by us, and to determine, therefore, a particular change, which we had affirmed to be impossible, because we had taken, as the sole measure of the powers of nature, our own very limited knowledge of those powers, and, in the pride of our ignorance, had resolved, that there could not be any influence which we were not capable of perceiving, and therefore, that a reason which we were incapable of predicting could not, physically, be a sufficient reason.

After this very full discussion of the doctrine of the Inertia of Bodies, whether in motion or at rest, as a property of matter, which might be demonstrated, and therefore anticipated with perfect confidence, independently of experience, —it will not be necessary to dwell so long on the analogous cases, of the Composition of Forces, and of Statics. A great part of the preceding reasoning is equally applicable to these, and therefore need not be repeated; but there is an additional objection of a different kind, which, as it is not applicable to the mere inertia

of a single mass, will require to be stated and illustrated now.

In treating of the inertia, we considered a single body, as existing in circumstances that appeared to be unaltered: in the composition or equilibrium of forces, we consider more bodies than one, and consider them as placed in new circumstances of combination. It is this difference of the novelty of the circumstances, that affords room for the peculiar objection of which I speak.

When, after having observed motion in the same straight line communicated to a body at rest by a moving body, we consider the possibility of two equal bodies moving in the same plane, in directions that are at right angles, and meeting at a third body, we are supposed to be able to infer, *à priori*, the consequent diagonal motion of the third body. Let us consider, then, the supposed necessary truth of this inference.

Even the primary fact of simple impulse, as it appears to me, we are wholly incapable of divining, before observation; since, if we were absolutely unacquainted with the phenomena of the communication of motion, there is no imaginable reason why we should not believe a

body in motion to stop when it arrives at a body which is at rest, or if any new motion should ensue, to rebound simply from the opposing mass, as much as that we should believe that mass, which we know only as existing in a state of rest, to quit the state in which we have observed it, and to fly rapidly forward. Even simple impulse, then, we could not have divined; and any complicated case of it cannot be more independent of experience than the simple primary fact.

But omitting this fundamental objection, and proceeding on belief of the phenomena of simple impulse, are we entitled, in this case of compound action, to consider the two bodies, when they meet at the third, as existing in the same circumstances, with tendencies in every respect exactly the same as when, in some former observation, the one was seen to impel the other? *Three* bodies, in a certain situation, may have attractions, or repulsions, or relative tendencies, with whatever name we are to express them, altogether different from those which were observed to take place in *two*, in the different situations in which they existed alone; in the same manner as, in chemistry, we know that a

small increase or diminution of the quantity of oxygen, combined with azote, produces effects which have no similarity to the past observed action of the same particles differently combined. Sulphuric acid burns animal matter; potash burns animal matter; the two bodies in combination do not burn animal matter. The change of the properties, or seeming properties, of its compounds is, indeed, of the very essence of chemistry; which derives from these beautiful transmutations, at once its dignity as a science, and its value, as the director of many of the most useful of arts.

It would be vain to urge, in the hope of obviating the force of the analogy of the chemical facts, that in these instances, in which new physical influences seem to be evolved in composition, the bodies which evolve them are not homogeneous: for, in the phenomena of common motion, the homogeneous or heterogeneous nature of the masses is never taken into account; and, if we were alike ignorant in both cases,—having had no experience of the general facts of chemistry, and no experience of the composition of forces,—we should as readily infer, from the separate action of sulphuric acid and of potash,

a similarity of action in the compound, as we should infer, from the phenomena of simple impulse, the diagonal motion of a body, impelled at once in different directions. The same experience which informs us that the particles of matter, by changing their place, in certain combinations, receive or exhibit different tendencies, informs us, that the solid masses of matter, brought into various combinations, continue to possess or to exhibit the same tendencies: but still it is to experience only that we owe this distinction; and, without that experience, we might as readily have inferred a variation in the apparent qualities of the masses, on the introduction of a third mass, as of the particles, on the admixture of new particles.

May we not proceed, however, a step further, and inquire, whether there be indeed the difference that is supposed, in the species of action of masses and their elements? Is it true that, in *all* the circumstances in which bodies can be placed, and in which a reciprocal action of some sort takes place in them, there must either be that elementary change, which distinguishes chemistry, or a continued influence varying, perhaps, in degree, but always similar in kind?

Experience, if we attend to its minute information, is far from justifying the belief of such uniformity. Even homogeneous masses, acting on each other, without decomposition, have their mutual action varied by a slight difference of place: and, though the difference, of which I speak, occurs only in very close vicinity, it might have been imagined, before experience, to occur as readily at one distance as at another, and to present, therefore, a continual variation of phenomena, with every new position of every mass.

To the vulgar, all bodies seem to fall, till they come into actual contact with the earth: yet we have every reason to believe, that no such actual contact takes place, and that even two homogeneous bodies, which, at all visible distances, attract each other strongly, produce in each other, by the change of a single invisible line of distance, a tendency to motion, which is altogether opposite. It is quite evident, that, if the same force, by which atoms tend to atoms at every visible distance, were of unceasing operation, there could not be any compressibility of matter; because that greater closeness, which the compressing force induces, must have taken

place long before the application of the pressure, by that attractive influence alone: and the resistance to the compressing force, increasing with every degree of the pressure, marks of itself, that the particles, in their different degrees of approximation, have different degrees of a tendency, the very opposite of that which they exhibit in the distances that are measurable by our senses. The same change of tendency, in a slight difference of circumstances, is marked in a still more striking manner in the phenomena of elasticity, and in every reaction of bodies at the moment of impulse. When, in a case of this sort, a ball rebounds from the ground which it has struck, we have truly as little reason to doubt of the repulsion of matter, in certain circumstances, as to doubt of the reciprocal attraction of matter, in certain other circumstances, when the ball was dropped from our hand, and when the points of closeness to the earth, at which it still continued to tend downward, and at which it afterwards rose in the opposite direction, important as they were in the changes which they exhibited, would, to our eyes, if our judgment were to be determined by these alone, have appeared to be the same.

The difference of circumstances, in such a case, it must be allowed,—where there is no new substance introduced, and no sensible change of relation of the existing substances, and where the resulting effect is yet completely reversed,—is certainly not greater than in the co-existence of three instead of two bodies; and if tendencies to motion exactly opposite can be produced by a single line of distance, it is surely not more wonderful, *à priori*, that they should be produced by the presence of a new body.

Experience, indeed, tells us, that it is in the former case only, not in the latter, that the change of tendency is produced: but still, we must confess, that it is experience alone which gives us this information; and that, if the change of tendency had been produced in *both* cases, the only circumstance from which the diagonal motion is supposed to be deducible, would have been destroyed.

When two bodies meet, at a third, in directions exactly opposite, we are not to consider the state of the third alone, then, but the whole phenomenon, of which the third is a part: for the presence of a third body may, perhaps, in

such circumstances, suspend, or variously change the repulsion, on which the impulse depended, that was observed in the two alone. All the bodies may remain at rest; or the two external bodies may return, with various degrees of velocity; or, if any other species of result can be imagined, that result may equally take place. To give the name of *composition of forces* to such cases, is in truth to beg the question; since it takes for granted, that the *forces* remain, though the situation of the bodies be different. The real inquiry is, whether we can have absolute certainty, *à priori*, that, in such cases of new combinations of circumstances, *there are any remaining forces to be composed.* There may no longer be a single *force* in existence. All which our supposition can assume with certainty, is, that there is a meeting of bodies, which, in other circumstances of combination, possessed certain forces. But *a meeting of bodies* is a very different thing from the assumed *composition of forces;* since it still sends us to experience, to determine, whether, in the new circumstances of union, any forces exist.

It is unnecessary to repeat the argument in its application to the phenomena of statics,

which, as implying the joint influence of opposite forces that are said to be in equilibrium, are liable to an objection exactly of the same kind as that which I have now stated in relation to the general doctrine of the Composition of Forces.

It is indeed evident, that, in all cases of the supposed inference of phenomena *à priori*, whatever those cases may be, the very supposition of inference implies, that the circumstances, in which the bodies are imagined, are new; and, in new circumstances, we cannot have absolute certainty that the qualities before observed in different circumstances remain unaltered. There is always, however, a tacit supposition, made by those who assert the possibility of such inferences, that the bodies, in the new circumstances in which they are imagined, are not to have any tendencies which were not observed in the prior circumstances: but this is surely to assume a licence of supposition beyond that which strict philosophy or general analogy justifies. That a very slight difference of the circumstances of bodies often produces, or, which is to us the same thing, renders apparent to our senses tendencies altogether unlike those which

they exhibited in other circumstances, is the very peculiarity of physics, which renders experience of such essential necessity: and therefore to take for granted, in our enunciation of a physical doctrine, that bodies in new circumstances are not to have any new qualities, and afterwards to attempt, on the mere assumption, to establish the possibility of inferring, *à priori*, the phenomena which those bodies would exhibit, in the new circumstances supposed, is an error with respect to the general principles of physics, as gross as would be the opposite error in mathematics, if it were asserted that the actual measurement of the angles of triangles of various kinds, is necessary for our belief, that the three angles of any rectilinear triangle whatever are together equal to two right angles.

It thus appears, that the very false opinion which asserts the absolute independent certainty of some physical inferences, as to phenomena which have never been observed, derives whatever semblance of probability it may have, from the assumption of the very circumstance, which in physics, before experience of the particular case, is the great object of our doubt. There are many situations in which bodies appear to

possess the same qualities:—there are many other situations in which they seem no longer to possess the same qualities, and seem even to possess qualities, as they certainly exhibit tendencies, which are opposite to the past. To discriminate these situations is the work of observation and experiment; and, where the circumstances of position or combination are new, we are not entitled to infer the permanence of any tendency, observed in different positions, or in different combinations.

But though the opinion were not liable to this objection, or to other objections of a similar kind, it would still be liable to that primary fundamental objection, which is common to every case of physical causation; and which is not considered by me as of less irresistible force, because, in the foregoing discussion, I have chosen, in the first place, to consider the secondary arguments that may be urged in support or confutation of the opinion which I combat.

Though we should admit, that, from the observation of simple impulse we may be led to suppose the diagonal direction of the motion of a third body, impelled by bodies moving in directions that are at right angles, we certainly

cannot be led to suppose it, with greater assurance, than that, with which we believe a repetition of the rectilinear motion to be produced by a repetition of the simple impulse : and our belief of this *future* rectilinear impulse is not an *inference* from any induction of the past, however frequent our observation of cases exactly similar may have been. Unless, in similar circumstances, the future be exactly similar to the past, there will be neither rectilinear motion, from the impulse of one body, nor diagonal motion, from the impulse of two bodies ; and, therefore, if the resemblance of the future to the past be not itself demonstrable, the prediction of either of those events must be at least equally beyond our power, as the demonstration of that uniformity of the order of nature, which is assumed in the prediction. Matter itself, as an object of our knowledge, is only what is and has been,—not what is yet to be. We know that a stone falls to the ground to-day ; and we *believe* that it will fall to the ground in the same circumstances to-morrow : but the belief is not the result of reasoning ; and vain would be our toil, if we should endeavour to state some argument that originally convinces us of it. If the

continuance of gravitation, in all future time before us, be not a necessary truth, it surely cannot be said of any of the future unobserved phenomena of statics, *which depend on the continuance of gravitation,* that they are not contingent, but of absolute independent certainty: for we might thus infer the certain existence of that which, for any reason that can be given by us, may never have existence.

The future course of Nature, as I have already said, is as much beyond our reasoning as it is beyond our observation. There is no phenomenon whatever, of which the prediction is not contingent, even after innumerable instances of it, in past sequences, have been observed by us: and, before it has been observed by us at all, the uncertainty cannot in any instance be less, but must, on the contrary, be much greater; since, even in the cases, in which alone the inference is supposed to be possible, the reasoning proceeds on an assumption which is contradicted by our general physical knowledge,—the assumption, that bodies, in new circumstances of combination, always retain their former tendencies, and have no additional tendencies, similar

or different, which can modify the phenomenon that results from their joint action.

The cases which have now been considered, of imagined inference *à priori*, comparatively simple as they may seem, we may therefore conclude, form no real exception to the justness of the doctrine, which denies the possibility of such an inference, in any case. Experience is, in every case, necessary, for strict undoubting belief of the future sequences of phenomena; and, even after experience, the relation of cause and effect, as extending beyond the particular facts observed, cannot be discovered by reason.

## SECTION V.

The doctrine, of which I have endeavoured, in the preceding Section, to exhibit the fallacy, relates to some of the simplest laws which regulate the production of motion and rest, and was not meant, in the reasonings of the very eminent philosophers who have maintained it, to be extended beyond those simple primary laws. Even in their own minds, however,—and, much more in the minds of those who, when they adopt the mistakes of philosophers, adopt them without the limitations that were internally given to them by sager understandings,—there can be no doubt, that while the possibility of physical prediction, in any case, was supposed to be wholly independent of experience, this error must have tended, in a considerable degree, to diffuse a false impression of the nature of the connexion of physical

events in general. If we think that, by mere reasoning, in the same manner as we evolve in our thought the mathematical relations of form and number, we could, in a very large proportion of the events that have come beneath our view, have discovered, *à priori*, the physical relations of antecedence and consequence, it is not very wonderful, that we should believe it possible to make the inference in other cases, in which, though the relation may be specifically different, it is still only a relation of the same kind. We may, in stating the doctrine to others, and even speculatively in our own silent thought, confine the possibility of such an inference to the simplest cases of the mechanical affections of matter: but since, even in the elementary changes of things, there *may* be affections of this kind, too minute to be distinguishable by us, yet similar to the impulses, and re-actions, and compositions and balancings of forces, in the masses which we are capable of perceiving, it is not easy to determine, with absolute certainty, that any change which is taking place before us, is not, partly at least, in its principle mechanical; and we may conceive, therefore, that all which

would have been necessary, for enabling us to anticipate, before experience, that particular phenomenon, would have been a finer knowledge of the internal *mechanism*, on which the phenomenon is supposed to have depended. A sort of additional obscurity is thus thrown over the operations of nature, as if there were influences concerned, which are at once hidden from our view, and yet of a kind which require no observation to reveal them to us; and while we believe, that we could have predicted some changes, and not others, we are perplexed, when we attempt to discover, in the two classes of events, a difference of the principle of causation, which renders the future visible to us, in one case, and not in the other,—and perplexed, too, in our vain endeavour to distinguish the shadowy limits, in which, in their nearest approximations, the phenomena of these different classes seem almost to unite, or are separated by a boundary too minute for our feeble vision to discern.

One of the most general principles of fallacy, in our intellectual nature, is the readiness * with which we are constantly disposed to extend to

* Note L.

whole classes of phenomena, what is known, with certainty, only of some of the particular phenomena comprehended in them. From the influence of this general illusion there is no reason to believe that our notions with respect to the principle of causation itself should be exempted. The sequences of events, when we regard them alike as future, have to our mind, in this common relation, a tie of analogy which connects them all; and, accordingly, it would not be very wonderful, if those who believe themselves capable of anticipating, before observation, a number of these sequences, should have only a vague and obscure belief of the necessity of experience, for enabling them to anticipate in like manner the others.

It can scarcely fail, then, to give greater precision to the general notions on this subject, that the physical inquirer should see distinctly what, I flatter myself, the argument of the preceding Section has shewn, that our knowledge of the future, in all its variety of phenomena,—even in the simplest cases, of inertia, or impulse, or of the composition or equilibrium of forces,—is uniformly, and without any exception whatever, dependent on experience;—that, as there

is nothing in the sensible qualities of objects, which marks a direct relation to any other change than those which the names of the very qualities themselves express, so as to make the future an object of direct *perception*, there is nothing also in *reasoning* which can evolve to us any new physical relation. As often as we think of new substances, in any circumstances, or even of substances the most familiar to us, in circumstances that are new, we lose that prophetic power, by which we anticipated, with undoubting belief, the future results of combinations of circumstances with which we were before acquainted. We may still, indeed, form conjectures according to analogy; but, even when there are many concurring analogies, some doubt is mingled in every conjecture; and the very probability, that is felt by us in such a case, is a probability which is contingent on that general regularity of nature, which we assume as certain, without attempting to demonstrate it.

Perception, Reasoning, Intuition, are the only sources of belief; and if, even after experience, —for experience is in every case necessary,— when we believe the similarity of future sequences

to the past which we have observed, it is not from perception, nor from reasoning, that our confidence is derived, we must ascribe it to the only other remaining source. We certainly do not perceive *power*, in the objects around us, or in any of our internal feelings; for perception, as a momentary feeling, is limited to what is, and does not extend to what is yet to be: and, as certainly, we do not discover it by reasoning; for, independently of our irresistible belief itself, there is no argument that can be urged to shew, why the future should exactly resemble the past, rather than be different from it in any way. We believe the uniformity, in short, not because we can demonstrate it to others or to ourselves, but because it is impossible for us to disbelieve it. The belief is in every instance intuitive; and intuition does not stand in need of argument, but is quick and irresistible as perception itself.

It is not more truly, then, in consequence of an original sensitive capacity of the mind, that we perceive external things, than it is in consequence of an original mental tendency of a different species, that, on the perception of the changes of external things, we believe those

changes to be invariable in their order of antecedence and consequence. The belief appears to result as directly from the perception, as the perception from the presence of the external object; and the rise of the one feeling is not in itself more wonderful, as a phenomenon or state of the mind, than the rise of the other. In both cases, we can say nothing more, than that a certain antecedent is followed by a certain consequent; and, independently of our experience, it surely cannot seem less wonderful, that the presence of that material compound, which we term a Rose, should be followed by that mental state, which we term a Sensation of Fragrance, than that the perception of the fragrance, as consequent on the presence of the rose, should be followed by that different mental state, which constitutes belief of the recurrence of the sensation as a future uniform result of the presence of the same body. As far back as our memory of any physical changes extends, we find our belief of the uniformity itself to extend: we do not remember a time, when we knew that a change had taken place, and yet had no belief, that, in the same circumstances, the same change would take place again.

When we think of the origin of any of our feelings, it is to our consciousness, in the record of it which memory preserves, that we must look; and all which it exhibits to us is the observation of a certain antecedent and consequent, and the instant belief of invariableness of the same sequence in the same circumstances. There is nothing which we can discover, as intervening in the process, between the observation and the wider belief; and, therefore, whatever it may be, which the ingenuity of philosophers may strive to insert in it, we may be certain, at least, that it is not in our consciousness the supposed element is to be found.

Why, then, since the sequence of phenomena is all which we discover in any case, should the intuition itself, as the immediate result of observation of change, appear to us so peculiarly wonderful that it should seem necessary to imagine a little more complication in the process to reconcile it with probability? In the phenomena of nature, to a mind that observes them philosophically, all changes are wonderful, or none are so: for, in the simplest change, there must always be an antecedent and a consequent, and in the parts of the most complicated series, when

considered analytically, there is nothing more. The observation is one state of the mind; the intuitive belief is another state of the mind: it is not easy to assign a reason, *à priori*, why it should seem to us more inexplicable, that the one of these states should succeed the other, than that, in the whole wide range of the phenomena of nature, any other state of any other substance should succeed any other state of any other substance.

That, with a providential view to the circumstances in which we were to be placed, our Divine Author has endowed us with certain instinctive tendencies, is as true, as that he has endowed us with reason itself. We feel no astonishment in considering these, when we discover the manifest advantage that arises from them; and, of all the instincts with which we could be endowed, there is none that seems,—I will not say, so advantageous merely,—but so indispensable for the very continuance of our being, as that which points out to us the future, if I may venture so to speak, before it has already begun to exist. It is wonderful, indeed, —for what is not wonderful?—that the internal revelation which this belief involves, should be

given to us, like a voice of ceaseless and unerring prophecy. But, when we consider WHO it was that formed us, it would, in truth, have been more wonderful, if the mind had been so differently constituted, that the belief had not arisen : because, in that case, the phenomena of nature, however regularly arranged, would have been arranged in vain ; and that Almighty Being, who, by enabling us to anticipate the physical events that are to ensue, has enabled us to provide for them, would have left the creatures, for whose happiness he has been so bounteously provident, to perish, ignorant and irresolute, amid elements that seemed waiting to obey them,—and victims of confusion, in the very midst of all the harmonies of the Universe.

# PART FOURTH.

## ON MR. HUME'S THEORY OF OUR BELIEF OF THE RELATION.

# PART FOURTH.

## SECTION I.

The inquiries into the real import of the relation of Cause and Effect,—into the sources of the various illusions which have led to the consideration of it as of different import,—and into the circumstances in which the belief of the relation arises in the mind,—exhaust, as it appears to me, the questions which the abstract philosophy of causation admits. But there is one eminent philosopher, whose opinions on the subject have had so powerful an influence on this abstruse but very important part of physical science, that it would be injustice to his merits, to consider them only with incidental notice in a work that is chiefly reflective of the lights which he has given. Though hints, more or less expanded, of the same doctrine as to the

*conjunction* rather than *connexion* of events, and the consequent impossibility of discovering in phenomena more than the uniformity of their sequence, may be found in earlier writers, it is certainly to Mr. HUME that we owe the fullest statement of those views with respect to the successions of phenomena, which he has termed, with, perhaps, a little unnecessary reduplication, "Sceptical Doubts;"—the force of which, not as mere scepticism, but as an exposition of physical truth,—as far at least as relates to the impossibility of directly perceiving or inferring the powers of nature,—I have endeavoured to develope, with a more comprehensive and minute analysis, and, as I flatter myself, with more precision of thought and language, in the discussions which have occupied the foregoing parts of this volume.

But the author of the "Sceptical Doubts," is the author also of a "Sceptical Solution of these Doubts;" and the Solution is far from deserving the praise which the Doubts themselves may more justly claim: while, at the same time, it shows, as I cannot but think, that, even in the Sceptical part of his theory, the ingenious questioner himself was imperfectly aware

of the exact force and limits of the very doubts which he urged. "That in all reasonings from experience there is a step taken by the mind which is not supported by any argument or process of the understanding," if the opinion is to be termed Scepticism, is at least a scepticism that requires no other Solution, than the certainty of the simple fact, that the step is one which it is impossible for the mind not to take. On this step, and on this alone, the whole belief of Power depends; and it is not more wonderful that the step should be taken, than that there should be in the mind any other tendency whatever to any other species of intuitive belief.

In this case, indeed, it seems evident, that the discernment of Mr. Hume was in some degree clouded by another theory, which he had formed with respect to the origin of our ideas in general; with a clearer view of which he would also have had a clearer view of our notion of causation itself. His general theory laid him under the necessity of finding an "impression," from which the "idea" of a cause might be derived: and hence, it is not wonderful, that, feeling this necessity, he more readily acquiesced in that very erroneous theory which he has given us, of

our belief of the relation of Cause and Effect, or, to use his own phrase, "of the idea of necessary connexion."

Before entering on the examination of the Theory itself, however, I may, perhaps, be indulged in a few remarks on the character of Mr. Hume's mode of writing on the abstruse subjects to which some of his Essays on the philosophy of mind relate; not with a view to the consequences, or the truth or error, of the opinions delivered in those Essays, but simply with regard to their degree of clearness and precision, as expository of doctrines whether true or false.

That he was an acute thinker on those subjects to which the vague name of Metaphysics is commonly given, there was, probably, no one, even of his least candid antagonists, who would have ventured to deny. That he was also an exact and perspicuous metaphysical writer, has been generally admitted, but it has been admitted chiefly as a consequence of the former praise, or from the remembrance of powers of style, which, in many other respects, he unquestionably possessed. We think of him, perhaps, as an historian, while we are praising him as a

metaphysician; or, in praising him as a metaphysician, we think of qualities, necessary indeed for the detection of error, but different from those which the development of the system of truths of an abstruse and complicated science peculiarly requires.

In the Philosophy of Mind, where the objects are all dim and fleeting, it is the more necessary, to remedy as much as possible, by regular progressive inquiry, and methodical arrangement, and precision of terms, the uncertainty that otherwise might flow from the shadowy nature of the inquiry itself. The speculations of Mr. Hume, however, as I conceive, are far from being marked with this sort of accuracy. The truths, which his acuteness is quick to find and to present to us, rather flit before our eyes in gleamy corruscation, than fling on the truths which follow them, that harmonizing lustre which makes each in progressive illumination more radiant by the brightness that preceded it, and more fit, therefore, to reflect new radiance on the brightness which is to follow. The genius of his metaphysical style,—discursive and rapid, and sometimes, in consequence of that very rapidity of transition, slow in its

general results, from the necessity of recurring to points of inquiry that had been negligently abandoned,—is not of the kind that seems best fitted for close and continuous investigation: and though, in the separate views which he gives us of a subject, we are often struck with the singular acuteness of his discernment, and as frequently charmed with an ease of language, which, without the levity of conversation, has many of its playful graces, still, when we consider him as the expositor of a theory, we are not less frequently sensible of a want of rigid order and precision, for which subtlety of thought and occasional graces of the happiest diction are not adequate to atone.

It is when we wish to unfold a system of truths, that we are most careful to exhibit them progressively, in luminous order: for, in the exposure of false opinions, the error, whatever it may be, which we wish to render manifest, may often be exhibited as successfully, by varied views of it in its different aspects, as by the closest analytical investigation. The want of strict continuous method, in some of the theoretical parts of Mr. Hume's Metaphysical Essays, —in which we discover more easily what he

wishes us not to believe, than what he wishes us positively to believe, or in which, at least, the limits of the doubtful and the true are not very precisely defined to our conception,—may thus, perhaps, in part, be traced to the habits of refined scepticism, in which it seems to have been the early and lasting passion of Mr. HUME's mind to indulge. It was more in the detection of fallacies in the common systems of belief, than in the discovery of truths, which might be added to them, that he loved to exercise his metaphysical ingenuity; or rather, the detection of fallacies was that species of discovery of truth, in which he chiefly delighted. There is, indeed, a calm yet ever-wakeful scepticism of an inquisitive mind, which has nothing in it that is unfavourable, either to closeness of reasoning in the discovery of truth, or to exactness of theoretical arrangement, in the communication of it to others. Such a spirit is even so essential to every sort of intellectual inquiry, that the absence of it in any one may be considered as a sufficient proof, that he has not the genius of a metaphysician: for the science of metaphysics, as it regards the mind, is, in its most important respects, a science of analysis;

and we carry on our analysis, only when we suspect that what is regarded by others as an ultimate principle, admits of still finer evolution into principles still more elementary. It is not, therefore, by such doubts as have only further inquiry in view, that the intellectual character is in any danger of being vitiated: but there is a very great difference between the scepticism which examines every principle, only to be sure that inquiry has not terminated too soon, and that which examines them, only to discover and proclaim whatever apparent inconsistencies may be found in them. Astonishment, indeed, is thus produced; and it must be confessed, that there is a sort of triumphant delight in the production of astonishment, which it is not easy to resist, especially at that early period of life,* when the love of fame is little more than the love of instant wonder and admiration. But he who indulges in the pleasure, and seeks, with a sportful vanity of acuteness, to dazzle and perplex, rather than to enlighten, will find, that though he may have improved his quickness of discernment, by exercises of nice and unprofit-

* We are told by Mr. Hume, that his Treatise on Human Nature was projected by him before he had left College.

able subtlety, he has improved it at the expense of those powers of patient investigation, which give to dialectic subtlety its chief value.

The perpetual consideration of the insufficiency of all inquiry, as deduced from inconsistencies which may seem to be involved in some of our principles of belief, is more encouraging to indolence than to perseverance. By representing to us error, as the necessary termination of every speculative pursuit, it seems, at every moment, to warn us not to proceed so far; and tends, therefore, to seduce the faculties into a luxurious slothfulness of occupation which prefers a rapid succession of brilliant paradoxes, to truths of more extensive and lasting utility, but of more laborious search.

To show, that it is not from any logical inference, or direct induction, we have derived many of those opinions which, by the very constitution of our nature, it is impossible for us not to hold, and which have been formed without any thought of their origin, requires indeed superior perspicacity, but does not require any process of long continued reasoning. The very habit of ratiocination is thus apt to yield to a love of briefer exercises of discursive subtlety;

and this tendency, when the scepticism relates to moral and religious subjects, is still increased by the popular odium attached to infidelity, in those great articles of general belief,—an odium, which may naturally be supposed to induce the necessity, in many cases, of exhibiting subjects only by glimpses, and of hinting, rather than fully developing and enforcing a proof.

A mind that has been long habituated to this rapid and lively species of remark, and that has learned to consider all inquiries as of doubtful evidence, and their results therefore as all equally or nearly equally satisfactory or unsatisfactory, does not readily submit to the regularity of slow disquisition. It may exhibit excellencies, for which we may be led immediately to term it, with the justest commendation, acute, or subtle, or ingenious: but it will not be in many cases that there will be reason to ascribe to it that peculiar quality of intellect, which sees through a long train of thought a distant conclusion, and, separating at every stage the essential from the accessory circumstances, and gathering and combining analogies as it proceeds, arrives at length at a system of harmonious truth. This comprehensive energy is a quality to which

acuteness is necessary, but which is not itself necessarily implied in acuteness; or rather it is a combination of qualities, for which we have not yet an exact name, but which forms a peculiar character of genius, and is, in truth, the very guiding spirit of all philosophic investigation.

That a long indulgence in the ingenuities of scepticism, though it may improve mere dialectic acuteness, has a tendency to deaden, if I may so term it, the intellectual perception of the objects on which it is wisdom to rest, and, by flinging the same sort of doubtful light over truth and error, to make error often appear as worthy of assent as truth,—at least if the error happen to be in any doctrine of the sceptic himself,—is, I think, what our knowledge of some of the strongest principles of the mind might naturally lead us to expect. That the evil, of which I speak, is truly to be found in the metaphysical speculations of Mr. Hume, I may be wrong, indeed, in supposing; but if any part of his abstract writings be marked with it, there is none, as I conceive, in which it is so conspicuous, as in those which relate to the subject that has been now under review. While

he appears only as the combatant of error, in exposing the inadequacy of perception or mere reasoning, to afford us directly any notion of the necessary connexion of events, it is impossible not to feel the force of the negative arguments which he urges, and equally impossible not to admire the acuteness and vigour of intellect which these display; but when, after these negative arguments, he presents to us opinions on the subject which he wishes us to receive as positive truth, a very slight consideration is all that seems necessary to shew how strong the self-illusive influence must have been, that could make these opinions, unwarranted as they are by the evidence of observation or consciousness, appear to his own mind worthy of the credit which he expects to be given to them. It is fortunate for his intellectual character, that it is not as a dogmatist only, he has given us opportunities of knowing him. The minor theories, involved in his doctrine of the origin of the notion of power, which we are about to consider, would certainly give a very unfavourable impression of his talents as a metaphysical inquirer, if his reputation as a metaphysician were to be founded wholly on this or other

positive doctrines maintained by him, and not on the acuteness with which, in many brilliant exercises of sceptical subtlety, he has exhibited what he wishes to be considered as errors in the systems of popular and scientific faith.

## SECTION II.

The notion of Power,—which I consider as nothing more, in any reference which we make of it, than our belief of the uniformity of some consequent change after the particular antecedent of which we think,—is by Mr. Hume termed "The idea of necessary connexion;" and, according to his Theory of Ideas, therefore, is supposed by him to be derived from some Impression.

On the fallacy involved in every practical application of that general theory of Impressions and Ideas, which its author prized so highly, as to consider it sufficient, if a proper use were made of it, to "render every dispute equally intelligible, and banish all that jargon which has so long taken possession of metaphysical reasonings," it is unnecessary, on the present occasion, to dwell with such minuteness, as to

exhibit fully the insignificance of the distinction. The truth is, that, if used for the purpose for which Mr. Hume supposed it to be available, the distinction, on which he would found so much, must begin by taking for granted every thing which he conceived it to be capable of proving. "When we entertain any suspicion," he says, "that a philosophical term is employed without any meaning or idea, we need but inquire, from what impression is that idea derived?" But may we not err in this very derivation; and may not the search itself, where the feeling is truly primary, and no derivation, therefore, is necessary, be a source of new error? It would be just as reasonable, to ask ourselves at once, whether the word have any meaning at all; for, if we suppose it to be without any meaning, the question of course must be immediately at an end; and if we suppose it to have a meaning, which we cannot trace to an earlier impression, that meaning will itself appear to us, if we adopt Mr. Hume's distinction, to be an original impression, beyond which it would be vain for us to inquire. It is not to our external sensations or perceptions only that he would confine the term Impression; and therefore,

while he allows it to be equally inclusive of many inward feelings that result only indirectly from those affections of external sense, he, in truth, leaves the very difficulty which he wished to remove, and only transfers to the word Impression the vagueness which might otherwise be supposed to hang more particularly over the word Idea. If we can err in supposing a meaning where there is none, we may err in supposing an idea or impression where there is none; for the one error is exactly of the same kind as the other. The doubtful term, concerning which a question is imagined to arise, instead of being significant of an Idea, in his sense of the word, may be significant of an Impression itself; and in this very case of Power, *is* truly significant of such an impression, —the impression of instant belief of invariableness of sequence, which arises on our perception of any change. If, therefore, we are conscious of the belief,—as conscious as we could be of any idea or impression whatever,— we surely have not to seek for any impression still earlier, to convince us that our belief is a genuine feeling. It is enough, that the belief itself is felt by us, to justify our employment of

words which express that belief; and, if it do not accord with any technical verbal classification that is presented to us, it is not the belief, really felt, which we are to deny to be a phenomenon of the mind, but the imperfect verbal division, which we are to deny to be a faithful classification of the mental phenomena.

There is no occasion, however, in the present case, to reject this twofold division of our feelings as false: for, though it certainly does not seem a very luminous arrangement of the phenomena of the mind, or capable of any practical applications whatever, it is at least a very harmless one, in the only sense in which it can be understood: since, in that only intelligible sense, in which Impressions signify our *original feelings* of every sort, and Ideas our *remembrances* or *conceptions* of those original feelings of every sort, it seems absolutely impossible to deny, that any feeling, of which we speak or think, must either be, or not be, original. We must either have a certain feeling, for the first time, or, if not for the first time, have a copy of a former feeling; and a denial of a distinction of this sort would be very like an assertion that the same part of a sequence can be at the same

time both first and second. But of what practical value is this obvious and seemingly insignificant distinction? It does not follow, that, because all our feelings must either be original or secondary, and the greater number of our original feelings are far more vivid than the greater number of the secondary, it is therefore a distinguishing character of every original feeling to be more vivid than every secondary feeling. The distinction, if just, might then perhaps be of some use: but to be useful, it must be just; and that it is not just, the slightest retrospect of our reflex feelings sufficiently shews. We may have original feelings that are faint, and remembrances that are far more lively. Our notions of equality, difference, proportion, for example, are not copies of any former feelings; they are new feelings that arise in the mind on the contemplation of certain forms: but our conceptions of the beautiful forms themselves which we may have been comparing, are, as mere feelings or states of mind, not less, but more lively than the notions of relation, which we cannot regard as copies of former states of mind, and must therefore consider as themselves, in Mr. Hume's sense

of the word, Impressions. He who has recently suffered a severe scald by the fall of boiling water, may think of the pain which he suffered; and his remembrance of that painful impression will be what Mr. HUME terms an Idea; it is indeed less vivid than the original pain, but, even as a remembrance, it is still a very lively feeling, and is certainly much more lively than the different state of mind which constitutes the mere belief of the connexion of the one event with the other antecedent event. The belief, however, is not an Idea, or mere faint copy of a former feeling: it is a feeling, in kind as truly original, as any of our other feelings; and we have as little reason to seek an Impression, to which we may refer it, as to seek an Impression to which we may refer our "love, or hate, or desire, or will," which, though resulting as directly as our belief from certain former feelings, Mr. HUME allows to be themselves not Ideas but Impressions. Our intuitive belief of power, which invests every change with the character of an effect, does not arise less readily, on our perception of change, than our love or desire, on the contemplation of an agreeable object: and the theory of Impressions and

Ideas throws exactly as much light on the origin of the one feeling as on the origin of the other. It leaves us, in short, as I have already said, in every controversy or speculative inquiry, exactly as it found us; because it does not put into our hands any test for discovering what feeling is or is not original, and is or is not therefore to be traced to some earlier feeling. If we choose to take for granted, without proof, that our notion of Power must be a copy of some other feeling, we may busy ourselves, indeed, in striving to discover of what feeling it is the copy, and, skilful as we may be in the search of analogies, may busy ourselves in vain: but the unprofitable labour will in that case be the result of an abuse of that very theory of Ideas, which was supposed to simplify inquiry, and to "banish all that jargon which had so long taken possession of metaphysical reasonings." Instead of searching for an Impression, we should first have considered whether it be necessary to seek for one. It matters little, whether, in some technical arrangement, we are to give the name of an Impression, or the name of an Idea, to our feeling of power: the great question is, Whether we have such a

feeling, and in what circumstances it arises. That we do truly believe an uniformity of sequence in the events of nature, our consciousness tells us, as clearly, as it tells us, that we are capable of perceiving the events themselves; and, as far back as we are capable of tracing the belief, we find it to accompany our perception of every change of every species. Here, then, in sound philosophy, inquiry should end; and the further very profitless inquiries, on which, in consequence of his theory, Mr. Hume thought it necessary to enter,—inquiries, that must be allowed to have a considerable resemblance to the metaphysical scholastic disputations, the jargon of which he so justly reprobated,—are themselves most convincing proofs of the false value attached by him to his Theory of Ideas, as the abridger of argument and the determiner of unprofitable speculation and controversy.

These further inquiries, accordingly, the consideration of which is next to engage us, are all referable to that one mistake with respect to our belief of Power, by which, in ranking the feeling as an Idea, he supposed that it must necessarily be derived from some earlier Impression. In our immediate feelings of sense, when

any event is perceived by us for the first time, no such corresponding Impression is discoverable; and as little is it discoverable, in any inference which our reason makes. But, when the same sequence has been frequently observed by us, there is afterwards a tendency in the mind, to pass readily from one event to the other, and, in consequence of this readiness of transition, so much more vivid a conception of the related object, that the liveliness of the feeling is itself supposed by him to be sufficient to constitute belief. In this altered state or tendency of the mind, after repeated observations of the same order of sequence of phenomena, is to be found, according to Mr. Hume, the origin of our belief of Power or Causation: it is the *Impression* from which the "*Idea* of necessary connexion" is derived.

In examining this doctrine, then, we have to consider, in the first place, on what evidence it is maintained, that the belief of power, or, in other words, of the relation of invariableness of antecedence and consequence, arises in the mind, not after simple experience of a change, but only after frequent or customary experience of it;—and, in the second place, what is the

peculiar nature of that transition of the mind and consequent vividness of conception, which are supposed to be so essential to the belief, or, rather to be all which constitutes the belief itself,—the Impression, and the only Impression, to which we owe our Idea of a Cause.

## SECTION III.

In a former Part of this Work, when I inquired into the circumstances in which the belief of the relation of Cause and Effect arises in the mind, I thought it sufficient to appeal to our consciousness, as the great source of evidence on the subject; and I remarked, that, as far back as our memory reaches to the earliest events, that occupied us either actively or passively in childhood, we do not remember a time in which the belief of some permanent relation of this kind was not immediate on the observation of change. Even before the period which memory is afterwards to comprehend,—as soon as the little sensitive being seems capable of distinct perception,—his actions are indicative of this accompanying belief. There is not the slightest evidence, then, of a single moment in which events are regarded as wholly loose and casual, but, on the contrary, the fullest evidence

of every moment which affords any indication whatever, that events are always regarded as signs of future uniformity of sequences, that are to be the same as often as the circumstances which recur are the same. It is, therefore, by a very strange license of gratuitous assertion, it is maintained, in opposition to the whole continued evidence of observation and consciousness, that the belief of the relation of Cause and Effect is so far from being co-extensive with the changes observed, that there is not a single change which does not require the influence of custom or frequent repetition to invest it with that character of invariable relation, which it seems to us to bear in the moment, or almost in the very moment, in which the phenomenon is perceived by us.

If Mr. Hume had been able to adduce a single instance of that belief of casual subsequence, without any accompanying notion of power, which he has asserted to be the belief of all mankind as to every change of every species, before the new feeling of the relation of the change as an effect has arisen from customary observation of the same phenomenon in the same circumstances,—his doctrine, then,

indeed, would not have been founded on a supposition *wholly* unwarranted, and inconsistent with *every* fact which it professes to explain. But, till an instance, though it were only a solitary instance, of such belief could be fairly adduced,—however suitable it might be, and even indispensable, for his theory, to suppose a state of the mind on the observation of every change absolutely different from any of which we have had experience,—there could be no reason on that account to consider the supposition as more accordant with the experience which has so uniformly contradicted it.

Even if, by the supposition of a state of mind in every case different from any of which memory or observation affords the slightest evidence, we could be supposed to free ourselves from any peculiar mystery which might appear to hang over the intuitive belief of causation, the theory might have some claim to easier admission. But even this scanty recommendation is more than it possesses. What is mysterious, if there be any peculiar mystery, before the admission, is equally mysterious after it; and the supposed difficulty, therefore, is exactly what it was, when the influence of custom was

not called in to remove it. A single moment of the past, and a thousand moments of the past, or, in other words, a single observation of a phenomenon, and a thousand observations of the same phenomenon,—if we attempt to speculate abstractly from the light of intuition itself, —are, relatively to the unexisting future, equally incapable of affording us any discovery of that unknown course of Nature which is still beyond us, and independent of our thought. Experience is always of the past; and the longest custom can tell us only what changes have been in the phenomena with which we have been familiar; while the belief of Power is the belief of changes that are to be, when we may no longer exist to observe them, and of changes that have been, when there was, perhaps, no human observer to witness them. In this indefiniteness of extension the whole difficulty consists; and Custom, which is of the past alone, does not render the extension through futurity less indefinite, nor the future itself a more distinct object of our knowledge. It leaves us the past, which we know, and the future, which we do not know; but it remains with us still, on the side on which we stand, of the great gulf

that is between; while it is Intuition only that passes over the darkness which is impenetrable to our vision, and speaks to us, as from another world, of the things which are beyond.

If, as Mr. HUME himself maintains, no experience of the past, however long and uniform, entitle us to infer the similarity of the course of nature in future, with any greater evidence to our reason, than may be drawn from the first single instance of sequence, there is no presumption, at least, afforded by this equality, that circumstances which are to our reason the same, are not equally fit also to be the medium of intuition: and, at whatever stage of observation our belief begin, whether at the first or the thousandth succession of the same events, the belief itself must still, as I have said, be intuitive; for the propositions *B has once succeeded A*, and *B will for ever succeed A*, are not more different, nor less comprehensive the one of the other, than the propositions *B has a thousand times succeeded A*, and *B will for ever succeed A*. Why should the future resemble the past? At every stage of observation, this question may be equally put; and, at every stage, it is equally unanswerable. If we can give any reason for

our belief of the similarity, we do not need custom to convince us of it; and, if we cannot give any reason for it, it is surely vain to appeal to custom, which is only a portion of that very past, concerning which there is no difficulty whatever, and not a portion of that unexisting future, in the believed similarity of which is to be found the only difficulty that perplexes us.

As far as we have yet seen, then, the assertion of Mr. HUME, with respect to the necessary influence of custom or frequent observation of the same change, before any belief of the relation of Power can arise, is not warranted, in the slightest degree, by the evidence of what we remember to have felt in ourselves or observed in others; and, even though it were accordant with this evidence, instead of being completely opposed to it, it would not lessen in any degree the mystery of that conversion of the past into the future, which is involved in our belief of the continued uniformity of the order of Nature, and in the various terms of Power or Causation, which are used by us to express that belief.

But if the observation of the sequences of events and the belief of Power have been so truly co-extensive, that we do not remember a

single change to have been observed by us which was not regarded as the *effect* of something prior,—how, it may very naturally be asked, could the opposite doctrine, so inconsistent with our consciousness, be maintained by any philosopher, and especially by a philosopher of the great talents of him whose opinions on the subject we are examining?

It is in his defective analysis of experience itself, and of the circumstances in which it operates, that the illusion, as I conceive, is chiefly to be found. There is a compound influence of experience; or, rather, it has different influences on our belief in different circumstances of our knowledge: and in the speculations of Mr. Hume, these primary and secondary influences were not sufficiently distinguished.

When we consider the successive phenomena that are constantly taking place around us, in intermingled series, it will be allowed, that repeated observation is necessary, not to give us our belief of the relation of Power itself,—not to lead us to consider the phenomena as effects of some cause or causes,—but to enable us to fix with precision, where there are many antecedents and many consequents, the order in

which these are to be reciprocally paired. It is not on a single experiment or observation, therefore, that we now rely, when we have full confidence that we have discovered a cause; but our doubt and perplexity result from a state of knowledge very different from that rude state in which the first trains of events were observed by us. The nature of this difference I have already repeatedly stated. New as any phenomenon which we observe may be to us, we do not hesitate for a single moment in regarding it as the effect of circumstances which preceded it; but we know that these antecedent circumstances were of various kinds, some of which might probably have no permanent relation to the phenomenon, which alone we are considering: and it is not wonderful, therefore, that the mind, though originally led to believe causation in every sequence, and still believing causation in every sequence, should yet be doubtful of the particular antecedent, which it is to couple in its belief with the particular consequent. There can be no question, that, in this confusion of parts of trains, the reference will often be wrongly made, and considerable disappointment therefore be felt, when the anticipations, made

in consequence of such errors of reference, are found not to be fulfilled. In such circumstances, accordingly, the mature mind, often expecting, and often deceived, but deceived always less frequently, as the same succession has been more frequently observed, learns to feel the value of successive trials, and instead of venturing to determine instantly in any mixed series of causes and effects, the particular connexions of each, withholds its complete trust or assent, till the important confirmation of experience be given.

It is from experience itself, however, that we learn this very caution; and with the increase of our years, therefore, which must be continually increasing the number of customary connexions observed by us, there is no corresponding increase of quickness to connect events as invariably antecedent and consequent. Do we not rather remember a time, when, *if without contrary experience* we had a tendency to invest with this character of uniformity of sequence whatever was perceived by us in instant succession, loose and casual as the succession might truly be? The effect of greater knowledge is evidently to lessen this tendency, by showing

us, that many events, which we considered as regularly antecedent of others, have not been followed by them, and warning us, therefore, that, as we have erred before, in supposing a permanent connexion where there was none, we, in like manner, may err again, in the rash physical anticipations which we should otherwise be inclined to form.

This warning influence of experience, however, as I have before said, relates to the determination of particular causes, not to the belief of causation of some sort, in the very phenomena which we are thus slow to rank in their particular order as effects. When we mix two substances, that have never been combined before, and a peculiar product appears, what is the state of our mind? Do we consider the mixture and the product as two loose phenomena, unconnected as completely as the appearance of the new chemical substance in our vessel, and the appearance of a friend, who accidentally enters our apartment at the moment? It is this state of mind alone which can be reconciled with Mr. Hume's supposition; but it is surely not the state of mind of the chemist. He believes the product to be the *effect* of the

mixture, or, if he have not absolute assurance of it, the want of conviction arises only from the doubts which are suggested by his past experience. The accidental changes of temperature, the impurity of the substances used, the presence of light or of air, or of other foreign matters in the vessel, and the peculiar affinities of the vessel itself,—by which he has known his experiments to be affected before,—occur to him, *as causes* which may have modified the result. To these he turns his attention. By some possible variation of these, he believes, that the event may possibly be rendered different; but if he were certain that all these circumstances would for ever be the same, he would have no doubt that the resulting product also would for ever be the same. The exact similarity of the circumstances being supposed, his conviction, after one experiment, would be, in every respect, as complete as after a thousand repetitions of it.

It is not necessary to be a practised experimentalist to have felt this confutation of Mr. HUME's theory. The belief of regularity of sequence is so much the result of an original principle of the mind, that it arises constantly,

on the observation of change, whatever the observed antecedents and consequents may have been, and requires the whole counteracting influence of our past knowledge to save us from the mistakes into which we should thus, at every moment, be in danger of falling. In the common circumstances of life how often have we felt this struggle between our tendency to conjoin events, as invariably consecutive, and the past experience, which shows us that they have no permanent and uniform connexion! It is a struggle like that which we feel with another very strong principle of belief, when we look through an optical instrument, on a landscape that is familiar to us. The church, and the lake, and the wood that overhangs it, appear to us indeed to be near; but we have a stronger conviction, from past experience, that they are far off: and we, therefore, do not consider the meadows between as less extensive than they are, nor hasten, as if he were before us, to meet the friend whom we see approaching at the very end of our telescope.

If one train of phenomena alone were taking place in nature, it is probable that our feeling of the relation of cause and effect would in every

case be unmingled with doubt of any kind; but we learn, from varied disappointment, that innumerable trains are taking place together; and, with this confusion before us, we feel a want of certainty,—but it is in this only, that we are ignorant to which of the trains the particular phenomenon of which we may be thinking belongs.

The very knowledge that there are separate trains in the mixed phenomena, is itself almost a sort of proof, that the belief of causation is immediate, or at least that, before custom can have influence, the similarity of future sequences is in some degree anticipated. There is no sensation, perhaps, which is entirely simple. Various objects at the same moment affect us, and form an aggregate, which is, probably, at no other period exactly the same, but intermingled with other antecedents and consequents in ceaseless diversity. If, therefore, there were no presumption that Z, which once before succeeded C, would succeed it again, more than X or Y, which we had never before observed to succeed C, it would be impossible, when A, B, C, were, at one moment, producing X, Y, Z, to determine of which part of the aggregate Z, thus renewed, was the regular consecutive effect. The

analysis and distribution depend on the belief, or presumption, which followed the observation of the first sequence; and, without this, the mixed sequence would still be loose as before.

Even with all the doubts, which the experience of many years has given us, we never hesitate, in simple cases, in which we have little reason to suspect the interference of concurring trains, to rank the consequent which we know, with the antecedent which we know. Such is the case in far the greater number of the direct affections of our organs of sense, where the circumstances are usually of easy limitation, with little chance of the admixture of foreign bodies with those which we are particularly considering. When a new fruit is presented to us, and we apply it to our organ of taste, though altogether deprived of the aid of customary connexion, and therefore, if custom be necessary for our belief of power, incapable of any relative notion but that of casual sequence, we have no scruple in ascribing the new sensation to the new object, and we say instantly, that it is sweet, or acid, or bitter. The epicure, who relishes a new ragout, knows well, that the source of his pleasure is in the particular dish

before him; and, if he wish to enjoy it again, it is to that dish alone he returns, though twenty new objects be around it. When, on plucking a flower, which we have never before seen, we are sensible of a disagreeable odour, we throw away the flower, without the slightest doubt that it was from it the odour arose. The boy, who for the first time catches a bee, and is astonished to feel its sting, does not wait for a second and third application of the poison, before he learn to fear it in future. Whether his belief be consistent with reason is not the inquiry. It has been already admitted, that the uniformity of the course of Nature, in the similar returns of future events, is not a conclusion of reason, derived from the perceived agreement of propositions, but is a single intuitive judgment, that, in certain circumstances, rises in the mind, inevitably, and with irresistible conviction. Whether true or false, the belief is in these cases felt, and it is felt without even the possibility of a perceived customary conjunction of the particular antecedent and the particular consequent. Would Mr. Hume himself have considered the sequences as purely accidental? He owns, that, "when a child has felt the sensation

of pain from touching the flame of a candle, he will be careful not to put his hand near any candle :" yet the child, even though old enough to have acquired an accurate knowledge of the places of objects, and to be certain that it is the candle which is burning him at that particular moment, should, in such circumstances, if custom were necessary for enabling him to extend the past to the future, think no more of removing his finger from the flame, than of shaking off the bandage of his foot.

There is another form of the instant original belief, which might of itself almost be considered as decisive of the question. We often see a phenomenon, for the first time, without having attended to the particular circumstances which preceded it. If it be the experience of custom alone, then, which can give us that belief of connexion, by which we denominate a change an *effect*, we are, in this case, as observers, not merely without a customary sequence : we have not even a single case of it ; since we know the consequent only, not the antecedent, which was unmarked. Yet there is no one, who does not believe the change to be *an* effect, as completely as if he had

witnessed every preceding circumstance. On this one point he is in no suspense, and waits, only to discover *what* object, in the uniform and regular order of succession, was its correlative cause.

In his earlier work on Human Nature,* the force of the objection, arising from the belief of causation after single sequences, seems to have struck Mr. HUME himself. Instead of denying the fact, however, which indeed would have been impossible, he admits it, and endeavours to reconcile it with his system. "'Tis certain," he says, "that not only in philosophy, but even in common life, we may attain the knowledge of a particular cause merely by one experiment, provided it be made with judgment, and after a careful removal of all foreign and superfluous circumstances." † He does not

* As this Work was not sanctioned by the later judgment of its Author, who, in the advertisement to his ESSAYS, has "desired that they alone should be regarded as containing his philosophical sentiments and principles," I must request my readers to make the same distinction and reservation, as to any quotations which I may venture to introduce from the earlier Treatise, and to consider them rather as illustrative of Mr. HUME's sentiments, than as exhibiting a faithful view of the results of his mature reflection.

† Treatise on Human Nature, Vol. I. p. 156, of the original Edition.

furnish us, however, with any mode of determining *what are the foreign and superfluous circumstances.* The truth is, that the superfluous circumstances are merely those, of which we have had contrary experience, having observed them before, without the succession of the effect: and, when the complex sequence is stripped of these, *it becomes exactly of the same kind, as the first sequence observed by us, when we had no experience either of essential or of superfluous circumstances.*

If by one observation, *provided it be made with judgment,* we can attain the knowledge of a particular cause, we can attain it, only as being led to believe causation, in the prior of two events, where there is no contrary experience, to require that discriminating aid; and, if we be led to believe it, in such circumstances, the observation of sequence must have been originally and immediately accompanied with the belief of causation. It is not from the experience of custom, that we form our conclusion; for all which that experience tells us *is not that A is the cause of X,* which is the real phenomenon considered, but merely that B and C, which co-exist with A, are not the cause of

X, but are foreign and superfluous circumstances, since they have been often observed before, without the succession of X.

The mode in which Mr. HUME, in his Treatise, endeavours to reduce this anomaly to order, so as to make it cease to appear an exception, allowable as the argument might be in the loose popular reasonings of ordinary philosophers, is far from being equally allowable in inquiries so minute and rigorous as his, and is certainly very little in harmony with the spirit of that nice and subtle scepticism on which his own system is founded. He acknowledges, that the connexion of the ideas of the first and second objects of a sequence, is not and cannot be felt as habitual, after one experiment, but contends, that the connexion is comprehended in another, which has been previously acquired by habit. "The difficulty," he observes, "will vanish, if we consider, that though we are here supposed to have had only one experiment of a particular effect, yet we have many millions to convince us of this principle, *that like objects, placed in like circumstances, will always produce like effects;* and as this principle has established itself by a sufficient custom, it bestows an evidence and

firmness on any opinion, to which it can be applied." The sophistry of this argument, if rigidly examined, consists in the different meanings, which may be attached to the phrase *like objects.* It may signify *the many like objects,* of which we have had customary experience, or it may signify ALL *like objects,* of which we have had no customary experience. In the former sense only, can it be said, that we have millions of experiments to convince us of the truth of the principle asserted; but in the latter sense only, can it be of any aid to Mr. HUME. In that strict logic which he has taught us to apply to the events of Nature, the experience of a million sequences cannot go beyond a million sequences; and, though we may know, that A has been a million times followed by X, and B by Y, we are not entitled, therefore, on his own principles, to infer from these sequences of other phenomena, that C, of the priority of which we have had no customary experience, is the cause of Z, a new phenomenon, observed by us for the first time. It surely would be no very great extension of this concession, to suppose that A, which has a million times preceded X, might, if it existed again, be reasonably expected to be again

followed by X; and, if the legitimacy of this inference be admitted, all the force of Mr. Hume's scepticism, as to the inadequacy of reasoning to afford us any notion of the relation of cause and effect, is immediately destroyed.

X, Y, and Z, have always followed A, B, and C; *therefore* N will always follow M: a step would here, indeed, be taken by the mind which reason does not warrant; and it is surely too much to require it of us, as a mode of saving ourselves from the necessity of taking another step, that is acknowledged to be exactly of the same kind.

It must never be forgotten in this inquiry, that the supposition of the necessity of custom for the belief of power in any case, is a supposition that is wholly without evidence, or rather is one that is contrary to all the evidence which the phenomena, as far as they are capable of being known to us, exhibit. If, indeed, that primary influence of custom, which is supposed by Mr. Hume, were itself established by satisfactory proof, we might then be a little more willing to adopt, without very rigid scrutiny, an explanation, that, in the cases of immediate belief, after single sequences, might free us from an

apparent inconsistency so perplexing. But, when the inconsistency is only with a doctrine that is wholly unsupported by evidence of any kind, the simplest way of getting rid of the supposed difficulty is by getting rid of the previous error, involved in the gratuitous admission of the doctrine itself.

If we do not remember a time in which we observed a change, and believed the antecedent and consequent to be without any relation of future uniformity of sequence; and if, in the earliest actions of infancy, that could be indicative to us of any feelings whatever, we have not discovered the slightest evidence of such belief, there is no need to suppose that custom is necessary, in any case, for giving rise to a belief that must be intuitive, in whatever circumstances it may originate; and if we have no reason to suppose custom to be necessary in any case, it is idle to have recourse to it, in the circuitous process supposed by Mr. Hume, for the purpose of explaining what does not require to be explained. We do not believe that N will follow M, because X, Y, Z, have followed A, B, C; for N is as little involved in X, Y, Z, as M was involved in their particular antece-

dents: but we believe it, because we have observed M to be the immediate antecedent of N, and by a principle of intuitive anticipation, which it is impossible for us to resist, expect a similar order of sequence in future. It was for a reason exactly similar, that X, Y, Z, themselves were previously regarded by us as the regular consequents of A, B, C; and we only make in a new case, by irresistible intuition, that extension of the past to the future, which, by the same irresistible intuition, we had made in the other cases.

What, then, is the result of the inquiry, of which consciousness and observation, surely, ought to furnish the primary evidence? Have we found in these any reason for the assertion, that all phenomena, before *repeated* experience of their particular conjunctions, appear to us wholly loose, and that the supposition of their connexion as causes and effects can in no instance arise till the observed conjunction have been customary? Do not all the circumstances of our belief rather support the contrary opinion, that a peculiar connexion may be supposed, even after a single sequence; that, since innumerable trains of phenomena are taking place

together, and mingling in our observation, the *primary* effect of experience has been, not to increase, but to weaken, our belief of the connexion of particular events, by presenting to us, as a regular train of consequents, irregular portions of different co-existing trains; that, our expectation of uniformity being thus often disappointed, a habit of doubt has arisen, and the *secondary* influence of experience begins to operate, which, by showing us the customary successions of events, though it gives us not our first notion of the connexion of trains of phenomena, informs us, with greater certainty, to which, of many co-existing trains, a particular phenomenon belongs; that, hence, in mature life, the belief of connexion, which, according to Mr. Hume, should, in every case, depend on the number of observations, and on nothing more, is more or less strong, in particular cases, according to the nature and circumstances of the phenomena that are observed by us, as these furnish greater or less room for imagining a number of concurring trains,—being immediate and undoubting, where the new sequence is apparently simple, and of longer suspense, where the sequence is complex,—but, in every case of doubt, having

regard only to the uncertainty of the particular antecedent which is to be coupled with the particular consequent, and not to any uncertainty of the relation itself, by which the event, as soon as we observe it, is instantly characterised by us as *an effect*, the invariable consequent of some invariable antecedent.

If the preceding reasoning be just, the error of Mr. HUME evidently consists, not in affirming too much, but in affirming too little: for, if any succession of events can suggest the expectation of future similarity, there is surely nothing in the frequent recurrence of the succession, which can reasonably be supposed to diminish the expectation. It may not be greater, after it has been often confirmed, but it certainly cannot be less; and the theory is therefore objectionable, only as confining to sequences that have been often observed, a belief which is common to them with all other sequences. Yet, by a singular mistake, Mr. HUME has been censured by his opponents, as if his affirmation had been too large. Thus, it has been maintained by Dr. REID, that there are cases of uniform succession, in which the belief of causation is never felt; since, from the very commencement of our existence,

day has succeeded night in endless return,* without any supposition arising that night is the cause of day. But it should be remembered, that *day* and *night* are not words which denote two particular phenomena, but are words invented by us to express long series of phenomena. What various appearances of Nature, from the freshness of the first morning beam, to the last soft tint that fades into the twilight of the evening sky, changing with the progress of the Seasons, and dependent on the accidents of temperature, and vapour, and wind, are included in every day! These are not one, because the word which expresses them is one; and it is the believed relation of physical events, not the arbitrary combinations of language, which Mr. HUME professes to explain.

If, therefore, there be any force in the strange objection of Dr. REID, it must be shown, that, notwithstanding the customary conjunction, we

* "The third argument is that what we call a cause, is only something antecedent to, and always conjoined with, the effect.—It is sufficient here to observe, that we may learn from it that night is the cause of day, and day the cause of night: for no two things have more constantly followed each other since the beginning of the world."—*Essays on the Intellectual Powers*, Essay VI. chap. 6.

do not believe the relation of Cause and Effect to exist, between the successive* *pairs* of that multitude of events, which we denominate night and day. What, then, are the great events included in those terms? If we consider them philosophically, they are the series of positions in relation to the sun, at which the earth arrives, in the course of its diurnal revolution; and, in this view, there is surely no one who doubts that the motion of the earth, immediately before sunrise, is the cause of the subsequent position which renders that glorious luminary visible to us. If we consider the phenomena of night and day in a more vulgar sense, they include various degrees of darkness and light, with some of the chief changes of appearance in the heavenly bodies. Even in this sense there is no one who doubts that the rising of the sun is the cause of the light which follows it, and that its setting is the cause of the subsequent darkness. That darkness and light mutually produce each other they do not believe: and if they did believe it, their belief, instead of confirming the truth of Mr. HUME's theory,

* Note M.

would prove it to be false; since it would prove the relation of Cause and Effect to be supposed, where there has been no customary connexion. How often, during a long and sleepless night, does the sensation of darkness,—if that phrase may be accurately used, to express a state of mind that is merely exclusive of visual affections of every sort,—exist, without being followed by the sensation of light! We perceive the gloom, in this negative sense of the term *perception*;—we feel our own position in bed, or some bodily or mental uneasiness, which prevents repose;—innumerable thoughts arise, at intervals, in our mind, and with these the perception of gloom is occasionally mingled, without being followed by the perception of light. At last light is perceived, and, as mingled with all our occupations and pleasures, is perceived innumerable times during the day, without having, for its immediate consequence, the sensation of darkness. Can we then be said to have an uniform experience of the conjunction of the two sensations; or do they not rather appear to follow each other loosely and variously, like those irregular successions of events, which we denominate Accidental? In the vulgar, therefore, as well

as in the philosophic sense of the terms, the regular alternate recurrence of day and night furnishes no valid objection to that theory, with the truth of which it is said to be inconsistent.

But other objections, as we have seen, may be urged against it,—objections founded on the evidence of our consciousness itself, and of a kind which it seems scarcely possible to resist.

The general conclusion, accordingly, to which we are led, on this part of Mr. HUME's doctrine, is, that the experience of customary succession is not, as he contends, necessary to the belief of future similarity of sequence; but that where, from a supposed concurrence of many trains of phenomena, any doubt is felt as to the parts of each separate train, the influence of the experience of customary succession is always to diminish the doubt, till, by frequent exclusions of foreign circumstances in many varied repetitions of the observation, we are at length enabled to determine the particular antecedents and their particular consequents.

## SECTION IV.

The examination of Mr. Hume's Theory of "the Idea of Necessary Connexion," appeared to us, when we entered on it, to involve two inquiries; one of which may now be considered as closed.

We have seen, that the part of the theory, to which this first inquiry related, is wholly founded on a supposition unwarranted by any phenomena of our belief; since custom, which was asserted to be the only source of the idea, far from being necessary for evolving the very notion of efficiency, is necessary only for preventing our too ready belief of that connexion, where the antecedents and consequents have been casually mixed. It is not that which primarily directs us to consider events as effects of some cause, which we were sufficiently ready to do at any rate; but in the mixed sequences

of phenomena, it is our director how to rank most accurately each particular consequent with its particular antecedent.

We are now, then, in the second inquiry that remains, to consider the manner in which customary experience, if it were as necessary as Mr. HUME conceived it to be for evolving the intuitive notion of Power, is supposed by him to influence our belief, by affording us our knowledge of that most important of all physical relations.

The mode of its development is stated by him to be the following.

When two objects have been frequently observed in succession, the mind passes readily from the idea of one to the idea of the other: from this tendency to transition, and from the greater vividness of the idea thus more readily suggested, there arises a belief of the relation of cause and effect between them; the transition in the mind itself, being the impression, from which the idea of the necessary connexion of the objects, as cause and effect, is derived.

Such is the sum of Mr. HUME's professed Solution, as given by him in his Fifth and Seventh Sections, — a Solution, which, when

examined narrowly, appears too absurd to have satisfied even its author, though its author had been of far less distinguished genius; and which strikes us with double astonishment, when we consider, that the author was Mr. Hume. His, undoubtedly, is not a name, of which any philosopher can speak lightly; yet, though I feel all the reverence which is due to his general acuteness, and to the admirable talents which in many respects he possessed, I must confess, that the Essays, in which, after having given his Sceptical Doubts, he proceeds to explain the origin of our belief of Causation, appear to me in the impartial estimate which I should form of that part of the theory, if it were to be considered alone, so little worthy of the vigorous intellect from which they proceeded, that I should be disposed to rank them with our least perfect specimens of metaphysical disquisition. All is perplexity of language, and hypothesis, which is at variance with almost every fact; and if, at any time, we imagine that we have discovered the acuteness, which before delighted us in the sceptical part of the theory, it is only in the repetitions of those very doubts, which are necessarily at times brought back to

our view, in the less ingenious attempt to solve them.

Before the doctrine of the vivifying influence of the ready transition of the mind from the idea of the antecedent to that of its customary consequent, can be sufficiently understood, it will be necessary to examine another more general doctrine of Mr. Hume, as to the feeling of truth itself.

"The difference between fiction and belief," he says, "lies in some sentiment or feeling, which is annexed to the latter, not to the former;" and he then, with some labour of reasoning, demonstrates, that the sentiment thus annexed to belief, and constituting belief, is—Belief. Belief itself distinguishes belief from fiction; or, in other words, fiction is not belief. This identical proposition is certainly just; but would it not have been better, at once to own, that the feelings of reality and fiction are by their very nature different, than, even for a moment, to consider the difference of mere feeling as susceptible of proof; since the proof must be only a repetition of the difference? Belief he afterwards defines to be "nothing but a more vivid, lively, forcible, firm, steady,

conception of an object, than what the imagination alone is ever able to attain. This variety of terms," he adds, " which may seem so unphilosophical, is intended only to express that act of the mind, which renders realities, or what is taken for such, more present to us than fictions, causes them to weigh more in the thought, and gives them a superior influence on the passions and imagination. Provided we agree about the thing, it is needless to dispute about the terms. The imagination has the command over all its ideas, and can join and mix and vary them, in all the ways possible. It may conceive fictitious objects, with all the circumstances of place and time. It may set them in a manner before our eyes, in their true colours, just as they might have existed. But as it is impossible that this faculty of imagination can ever, of itself, reach belief, it is evident, that belief consists not in the peculiar nature or order of ideas, but in the manner of their conception, and in their feeling to the mind."

That imagination is sometimes able to attain whatever qualities are essential to belief, the phenomena of reverie and of dreaming sufficiently shew. But, omitting this slighter error

of definition, can we acquiesce in a statement of the essentials of belief, which has reference only to a single class of realities? Mr. HUME's doctrine may, with a few exceptions, be perfectly just, when it does not extend beyond the present moment, and is confined to the objects which we believe to be actually present to our senses: for when sensations and ideas of imagination occur together, we ascribe external and independent reality, only to the more vivid of the two; and in every case, except impassioned reverie, sensations are the more vivid. But belief of reality is not confined to the objects, that are considered by us as actually present; it extends to objects of which we only think, and which, in our thought, can be only what he would himself term Conceptions, or Ideas of Imagination. Almost all our knowledge, and therefore almost every feeling which can be termed Belief, is of this very kind; the belief itself being, in every such case, the effect of reasoning, or of former conviction, or of testimony, not of any peculiar quality of the present ideas, which, as mere ideas, may not be at all more vivid, when we believe, than when we disbelieve.

That it implies a peculiar "manner of con-

ception," and "feeling to the mind," must be admitted: for belief is certainly not the same feeling as disbelief. But the peculiarity of the feeling is not in dispute. The sole questions are, Whether in every case of belief, our conceptions of objects, as real, be more "vivid, lively, forcible, firm, steady," than when we conceive them, as feigned; and whether this superior liveliness of the conceptions be all which constitutes the belief itself.

Let us make the inquiry, then, and abide by its results.

When we believe, after having almost forgotten his exploits,—without being informed of a single feature of his face, or knowing even whether he was tall or short,—that ARMINIUS, the asserter of the liberty of Germany, existed; and, when we acknowledge, as wholly feigned, the existence of the heroine of a fashionable novel, of whose exact stature, and proportions, and graces, and dimples, and whiteness of teeth, and languishing blueness of eyes, a brilliant portraiture is given us, and whose mournful adventures we are able to detail, in the very succession in which their author has represented them; when the conviction is so different, do

we believe, and disbelieve, because our conception of the modern herione is less lively, than that of the ancient hero; or is it not from our knowledge of the different species of writing, that our judgment is formed? Have we a less firm conception of OTHELLO, than of the humble soldiers who fought in the Battle of Agincourt; and, when the conqueror of that great day is represented in our theatres, is the mimic king, or his real prototype, more steadily before us? How many are there, who, during a long life spent in a foreign country, have lost, in their pictures of remembrance, almost every trace of the friends of their youth! Yet the faint conceptions that arise are dear to them still, not as fictions, but as realities; and it is not from any fading of memory that they tremble, when they fear, that the friends for whom they are anxious exist no more. The information, in such circumstances, of the actual death of any one, and the sad belief with which it is accompanied, do not destroy nor impair a single remembrance, but brighten many fading images, and recall others which were lost, and seem to restore to us ideally the very lineaments of the person, in the certainty that he is himself no longer in existence.

The remark may be extended to all our passions, that relate either to objects which have ceased to exist, or to those which have not yet begun to exist. Desire implies the present non-existence, or at least the absence, and relative unreality to us, of the good which is its object: but it surely implies peculiar vividness of the idea of the unexisting or absent good; and he who fails in his endeavour to realize it, whatever the object may be, has, in the regret and mortification, which follow the failure, as fixed a conception of the object, as if his ambition had been fully gratified. Even in those cases, in which we have no personal concern, but are led along in passive sympathy, our belief has no connexion with mere distinctness or indistinctness of imagination. The very wildness and wonderfulness of romance, as they excite peculiar emotion, are indeed a cause not of less but of more lively conception: and, when we are interested in our knight, the tower and the giant rise before us in far stronger colours, than the host and his inn on a modern highway; though all the enchantment, as we know, is in the delightful art of the poet, who has raised unexisting castles, and multiplied

incredible perils at his will, and all the reality in the plain dwellings, which, without a single thought of their dimensions and appearance, we are perfectly certain of finding at every stage of every well frequented road in our island.

How very readily, on the testimony of a friend of known veracity, do we assent to the truth of events, which, in the brief moment of description, are so obscurely present to our mind, that it would be vain for us to endeavour distinctly to image them: and, without a faith of this sort in many physical changes and local appearances, how very limited would be our knowledge; since, if images "lively, forcible, firm and steady," were in every case necessary for belief, it must be confined, or nearly confined, to the objects which have come under our senses, excluding or scarcely comprehending any of the infinity of objects that are distant from us in place or time! Greece, and Italy, and Pharsalia, and its rival chiefs,—the illustrious of other ages,—the illustrious of our own age, whom we may never have had an opportunity of seeing,—and the greater part of the very island in which we live,—have but a faint and shadowy existence in our thought. Even

the strongest of all belief, that which is accompanied with conviction of the absurdity of any opposite proposition, is conversant, not with lively images of things, but with abstractions, which are the least lively of our feelings. Who is there, that can readily picture to himself a polygon of a thousand sides, the properties of which he believes with most undoubting faith? We understand, indeed, what is meant by mathematical lines and surfaces, or we could not understand the properties of mathematical lines and surfaces: but the generalizations themselves are so little vivid, that in mere liveliness of feeling, there is not a wild conception which can be borrowed from all the marvels and monsters of the wildest fairy-tale, that does not correspond more closely with the definition which is given of that great elementary constituent of belief.

"In our conception," says Mr. HUME, "we can join the head of a man to the body of a horse; but it is not in our power to believe that such an animal has ever really existed." That we have not the power, is true; but it is not equally true, that our conception is less lively, than in innumerable other cases, in which we have a belief that is wholly unmixed with doubt.

We picture Bottom the weaver, as readily, after his transmutation of head, as before it; though we may not be enamoured of him, after his metamorphosis, like the fairy queen: and the Centaurs of the ancient fable appear before us as distinctly, in the combat, as the Lapithæ who are opposed to them. There are few, indeed, who have not a more accurate idea of the body of a horse with the head of a man, than of a hippopotamus, or an oran-outang; and, scanty as our botanical knowledge may be, it would instantly be reduced within far narrower limits, if it were to exclude the existence of every plant, of which we had not a more distinct conception, than of a tree, exactly similar in its foliage and in the shape of all its parts to the oak or the elm before our door, but with roots of gold or a trunk of silver. By various nations various objects are believed to exist;—in the multitude of these, there is ONE, invisible, but still, however faintly comprehensible, an object of universal belief;—it is that Great Being, on whom, even in our adoration of his goodness, we almost tremble to fix our imagination.

Belief, then, arising often from testimony, in events which we have never had an opportunity

of witnessing, or from the faint memory of former conviction, or from the calm results of abstract reasoning, is something very different from a lively and firm conception of an object. It is a sentiment which is attached rather to the relations of things than to things themselves, and is, therefore, as little vivid in any case as the feeling of mere relation in which it is involved. It may be strong, or undoubting, where the relative objects are not of a kind that excite lively conceptions, and may be faint or wholly absent where the relative objects, as in the fictions of poetry and romance, awake at every moment conceptions and emotions far livelier than result from the ordinary combinations of existing things.

From his theory of Belief, Mr. Hume deduces a theory of Probability, which he holds to depend, not on the abstract knowledge of the greater number of chances, but on the separate effect of each chance, in brightening conception. He supposes, that where the number of chances is greater on one side, the mind is carried more frequently to one idea than to its opposite. "The concurrence of these several views or glimpses," he says, "imprints the idea more

strongly on the imagination; gives it superior force and vigour; renders its influence on the passions and affections more sensible; and, in a word, begets that reliance or security which constitutes the nature of belief and opinion."

Whatever fallacy is involved in the general theory of belief is certainly not less in this minor theory, that may be considered as its corollary. When, abstractly, we prefer five chances to one, what is the idea to which the mind is five times carried? If it be unity, our choice should be reversed. When we consider a thousand chances as having greater probability of success than nine hundred and ninety-nine, is the mind carried *one thousand nine hundred and ninety-nine* times to the different ideas? The comparison and the preference are the work of a moment, or of little more than a moment.

In his Treatise of Human Nature, indeed, Mr. Hume endeavours to account for our preference, in such cases, by the influence of general rules. "We have a parallel instance," he observes, "in the affections. 'Tis evident, that when an object produces any passion in us, which varies according to the different quantity of the object; I say, 'tis evident, that the pas-

sion, properly speaking, is not a simple emotion, but a compounded one, of a great number of weaker passions, derived from a view of each part of the object. For otherwise 'twere impossible the passion shou'd increase by the increase of these parts. Thus a man who desires a thousand pound, has in reality a thousand or more desires, which, uniting together, seem to make only one passion; tho' the composition evidently betrays itself upon every alteration of the object, by the preference he gives to the larger number, if superior only by an unit. Yet nothing can be more certain, than that so small a difference wou'd not be discernible in the passions, nor cou'd render them distinguishable from each other. The difference, therefore, of our conduct in preferring the greater, depends not upon our passions, but upon custom, and *general rules*. We have found, in a multitude of instances, that the augmenting the numbers of any sum augments the passion, when the numbers are precise and the difference sensible. The mind can perceive from its immediate feeling, that three guineas produce a greater passion than two; and this it transfers to larger numbers, because of the resemblance; and by a general

rule assigns to a thousand guineas a stronger passion than to nine hundred and ninety-nine."*

The very circumstance which Mr. HUME thus adduces in illustration of his hypothesis, is itself a mere supposition, and an erroneous supposition. When we desire a thousand pounds we have not a thousand separate desires, but one desire of that which will obtain us many objects of our wants; the composition being not in the mere pounds, but in the wants, which a large sum of money will gratify. It might be said, with equal truth, that we have twenty thousand desires, or two hundred and forty thousand desires, or nine hundred and sixty thousand desires, because there are so many shillings, pence, and farthings in a thousand pounds; and that, the exchangeable value of the whole sum remaining the same, the desire of it would be converted immediately into a different state of mind, by a minuter division of our coinage. The truth is, that the desire of a thousand pounds, and the desire of nine hundred and ninety-nine pounds, in one who is in no direct want of a particular sum, are, considered absolutely, exactly the

* Treatise, vol. i. p. 248.

same passion, being nothing more than the desire of that which will give him a great deal of accommodation. To those who, for any particular purpose, are in want of a thousand pounds, the desire of nine hundred and ninety-nine pounds would be different, because it would be compounded with the painful feeling of inadequacy. In like manner, when both sums are offered together, to our choice, or to our imagination, the resulting feeling is different; not because the mind, in considering both, has more glimpses of one than of the other, or thinks of analogous cases in which it has had more glimpses; but because the general desire of the power of accommodation, which is all that is felt, when each sum is considered absolutely, is, in the relative consideration, compounded with the notion of greater and less power. The only general rule, which is at all concerned, is the very obvious and simple one, that of good we prefer more to less, and of evil less to more. It is enough, for our preference, in any comparison, to know, that the objects are good, and that in one case the good is greater: and it might be said, with as much truth, that we have a stronger passion for three guineas than for

two, because we have a stronger passion for a thousand guineas than for nine hundred and ninety-nine, as that the passion is stronger, for the greater of these two sums, because it is stronger for three guineas than for two. Each case is a measure to itself, without regard to other analogous cases. It is, in the very nature of human passion, impossible for the mind to know, that a thousand guineas will procure as much good as nine hundred and ninety-nine, and will also procure more, without the immediate preference of the greater sum. The difference of three and two is indeed an earlier piece of arithmetic, in the same manner as the letter A is usually taught before the letter X; but we never think of saying, that we transfer to X our knowledge of A, or that in the knowledge of A there is any other difference than that of arbitrary priority. The simple preference of more to less good, whatever the good may be, is surely a circumstance that is easily conceivable; and, if it be not easy to be conceived, it cannot be said of the explanation which Mr. Hume has given, that it has rendered the preference at all more intelligible.

But, though it were conceded to him, that his

doctrine of the opposition of desires is just, and that it has the analogy, which he affirms, to the calculation of chances, there would still remain the strongest of all objections to his theory of the influence of general rules, in the particular case supposed, that it leaves the very difficulty which it professes to remove. The feeling of probability he considers as only greater vividness of conception; and in those cases in which the number of chances is on each side very great, it is confessed by him, that the idea of the object to which we assign the greater probability, is not brightened by that concurrence of glimpses which is the asserted cause of the brightness in cases in which the number of chances is on each side less. In the two comparisons, indeed, as far as we can depend on consciousness, there is no difference: the assent appearing to be equally immediate, and of the same kind, when we prefer a thousand chances to five hundred, and two to one. But, even though it were admitted, that our consciousness deceives us in this apparent similarity, it would still be necessary, if belief were nothing more than vividness of conception, that some circumstance should be pointed out, as supplying, in

the greater comparison, the place of those repeated glimpses, to which, in the less, so much influence is ascribed. The supposed general rule, which is said to have this effect, is nothing more, however, than the remembered brightness of past conceptions: but the brightness of one idea is not the brightness of another idea; and since it is with the accession of brightness, as constituting the greater probability, that the theory is exclusively concerned, a source of this particular accession must be found in every case in which greater probability is supposed, or the theory itself be abandoned. The greater number of glimpses in one comparison, may have rendered our conception of one object more vivid than of another: but it cannot transfer the superior liveliness which has resulted from these successive or concurring views to dissimilar objects, existing in a situation altogether different, and of which no such repeated glimpses have been taken. If the effect were transferable, it might be communicated as much to one object as to another,—to that which has nine hundred and ninety-nine, as readily as to that which has a thousand chances. The only supposable reason that it should not, is, that the latter

number is the greater of the two, and is therefore already felt as the brighter or more probable, since it is felt to be peculiarly analogous to that which was before felt as the brighter or more probable. But, if the mere circumstance of greater number be sufficient to account for the difference, without any rapid renewal of glimpses, it may as readily account for the preference of three chances to two, in the original comparison supposed, as for the subsequent preference of a *thousand* to *nine hundred and ninety-nine*. In every calculation of probalities, there is indeed nothing more, than the simple preference of *more* to *less*. The very supposition of more chances *implies* greater probability, and implies it, without any relation to the vividness of the ideas compared, and even where the greater vividness of ideas is on the opposite side; as in many of those calculations of moral chances, in which our lively wishes are on one side, and our unwilling belief on the other.

At best, Mr. Hume's theory of probability serves but to render very complicated what is in itself very simple, and much more easy to be understood before the complication than after it.

It should be remembered, too, that it is not merely when they are opposed to each other, in the chances of a result, that objects are comparatively vivid. They are infinitely various, in innumerable other respects: and therefore, if probability were nothing but greater vividness, the feeling to which we give that name should accompany as much the remembered liveliness of the whiter or warmer of two objects, as the greater liveliness of any other idea, which has been rendered more vivid by the concurrence of glimpses supposed by Mr. Hume. He who suffered severe pain yesterday from an accidental burn, should not merely dread the fire to-morrow, but, in imagining all the possible effects of the fire, should think it far more probable that he was to be again burned, than that he was to have only that mild warmth, the conception of which was faint indeed, in comparison of the remembered suffering. A sunny day is brighter in our memory, as it is brighter in Nature; but we do not expect such a day the more, on that account, in a season of gloom. If a die were to have one of its sides of the most brilliant crimson, and the other sides all of one uniform duskiness, our conception of

the crimson side would be the most lively, but we should be miserable calculators of probabilities, if we were to think the chance of that single side greater than the united chances of all the others.

If, indeed, the feeling of probability, in any case, depended on the mere repetition or concurrence of glimpses, it should be susceptible of perpetual increase or diminution, though it were known, that all the external circumstances of the comparison remained the same. By frequently suggesting one of the possible results, without even attempting to remove any of the circumstances opposed to it, we might reverse the belief of the most accurate calculator. At each new suggestion, that particular result should grow brighter and brighter. Expectation would thus soon be converted into certainty; and despair itself would be lost in the continual contemplation and desire of the improbable good which was its object.

## SECTION V.

The general doctrine of belief, which we have been considering, is introduced by Mr. Hume, to illustrate the particular instance of causation, as an object of belief. After two events have been observed by us often to succeed each other, he supposes that there is an easy transition of the mind, from one to the other; and that in all such cases of easy transition to an object, "the mind reaches a steadier and stronger conception of it, than what otherwise it would have been able to attain." If his theory of belief, therefore, were just, it is obvious, that, admitting the fact as stated, we should indeed believe the second object to have real existence, but we should believe no more; since the only effect of the transition is to give us that stronger and steadier conception, on which belief of reality is supposed to depend. But the fact, as stated by Mr. Hume, has no meaning: for how, by transition, can the mind

attain a steadier and stronger conception of an object, than it otherwise would have been able to attain, when the idea of an object, to use his own sense of that term, can be attained in no other way, than by such a transition as that described. There is, therefore, no possible ground of *comparison.* If it be not absurd to talk of laws * of association, ideas do not rise by chance: and every idea, therefore, if it rise at all, must rise according to those very principles of association or transition, which *all,* it is contended, have the power of rendering our ideas more vivid than they would have been, or, in other words, more vivid than themselves, or more vivid than nonentities. But, even though there were ideas that might be supposed to arise without suggestion, and with which, therefore, suggested ideas might be compared, as of more strong and steady conception, Mr. HUME's theory of the influence of transition would be scarcely less nugatory, and would be equally inconsistent with other parts of his doctrine. Instead of a

* The cases of transition, or association of ideas, are by Mr. HUME divided into three classes, of which one comprehends those which are considered by him as reducible to the relation of Cause and Effect.

single order of associations of causes and effects, all associate ideas would in that case be accompanied with the belief of causation; because *all* would "carry the mind" to the conception of the correlative, and therefore fix it in the conception with greater steadiness and strength. The sight of a person who resembles our friend, the sight of the place at which we parted from our friend, the sight of the book which our friend wrote, or of the landscape which he painted, all agree in this respect, that they suggest to us, by immediate transition, the idea of our friend: and therefore, if the suggestion, and the consequent vividness of the suggested idea, were all by which an uniform sequence produces in us the belief of causation, we should believe the relation of cause and effect to exist, between our friend and the person and the place, as much as between our friend and the book and the landscape.

To suppose that any circumstance, which is not common to all these cases, is necessary to the belief, is to admit the inadequacy of the theory which reduces the belief itself to the vivifying influence of the mere transition; and to suppose that nothing more is necessary, is to suppose that all the objects of our thought, in

our endless day-dreams of memory and imagination, appear to us a series of effects, or of causes. Whether they should appear to us effects or causes is, indeed, on Mr. HUME's principles, impossible to be determined. The son suggests the father, and the father the son; the artist suggests the picture, and the picture the artist: so that, if, previously to the supposed increase of liveliness of the ideas of suggestion, the two objects did not appear to us to be related at all, the father and the artist might seem as much to have the relation of effects, as of causes, to the son and the picture; the transition being of the same kind, and the liveliness of suggestion, therefore, being in both cases the same. That we have no difficulty in either case, in distinguishing the effect from the cause, is very true; for the relation is one which is known to us as well before the particular suggestion as after it: but it is equally true, that if we were ignorant of the relation before, the influence of suggestion, which is all that Mr. HUME points out, being common to both suppositions, could not afford us the slightest aid in making the distinctive reference.

In the Treatise of Human Nature, the objec-

tion that may be drawn from other cases of association is anticipated, and an attempt is made to obviate its force, by reasonings which only assume, without establishing by the slightest evidence, that difference in the mode of transition, which it was necessary to show in the particular associations of Cause and Effect, before an influence so peculiar was ascribed to the transition itself. The preliminary part of the argument, which does nothing more, than repeat, in many words, that there are relations of cause and effect and of resemblance and contiguity, I omit, and quote the only passages which have even the semblance of reasoning. A sort of line of distinction is attempted to be drawn between the relations. "Where, upon the appearance of an impression, we not only feign another object, but likewise arbitrarily, and of our mere good will and pleasure, give it a particular relation to the impression, this can have but a small effect upon the mind; nor is there any reason, why, upon the return of the same impression, we should be determined to place the same object in the same relation to it. There is no manner of necessity for the mind to feign any resembling and contiguous objects; and if it feigns such,

there is as little necessity for it always to confine itself to the same, without any difference or variation."—" The relation of cause and effect, has all the opposite advantages. The objects it presents are fixed and unalterable. The impressions of the memory never change in any considerable degree; and each impression draws along with it a precise idea, which takes its place in the imagination, as something solid and real, certain and invariable. The thought is always determined to pass from the impression to the idea, and from that particular impression to that particular idea, without any choice or hesitation."*

It is obvious, that the distinction which is thus attempted to be made, is wholly unwarranted by any difference in the particular suggestions of Cause and Effect: for, in the ideas themselves, there is nothing that is peculiarly precise, and solid, and real; nor can the external objects, if these are to be taken into account, be said to be more fixed and unalterable, when they suggest causation, than when they suggest resemblance. The ideas suggested by resemblance are not less vivid; nor is the mind,

* Vol. i. p. 193.

in its associations, less influenced by that relation, than by the relation of cause and effect. There is, therefore, nothing which can distinguish the cases of transition, unless we have a knowledge of the difference, which is independent of the transition; and if we have that previous knowledge, the supposed influence of the transition itself must be allowed to be unnecessary. Mr. HUME, indeed, seems to think, that there is a tendency in the mind, to pass uniformly from cause to effect, or from effect to cause, and not uniformly from resembling objects to each other: but there is no such peculiar tendency, as is supposed; the sight of an object suggesting sometimes its possible effects, sometimes its cause, and, at least as often, suggesting some similar object, or some event which was once connected with it by mere casual nearness of time or place. Even though there were, however, a peculiar tendency to the transitions of cause and effect, it is not a general tendency, which, on Mr. HUME'S principles, can have any influence on present belief, but merely the particular transition and the particular existing idea: and, whatever the species of suggestion may be, there must alike be a transition from one idea to

another. When we believe causation, it will be admitted, that we do not "arbitrarily, and of our mere good will and pleasure, give a particular relation to the impression," nor is there any "choice and hesitation" in the mere transition: but there is surely as little choice and hesitation, when a picture in our possession suggests to us the friend whom it resembles, as when it suggests to us the artist who painted it. In neither case can we be said to feel a necessity of confining ourselves to one object: for the picture might have suggested many co-existing circumstances of place and time, as well as the subject or the artist. We believe undoubtedly, that the artist alone, not any other person, was the cause of the existence of the painting: but the reason of our belief of this causation is not a proof that Mr. Hume's theory is true, but a proof that it is false; the belief depending only on the known immediate sequence of the labour of the artist and the beautiful result, and being altogether independent of any subsequent transition and increased vividness of those particular ideas.

Even if the transition were peculiarly uniform in the case of effects and causes, and in consequence of their uniformity, the "ideas" to which

the transition is made were peculiarly steady and bright, they would still, even when thus vivified, be less bright and steady than our "impressions;" and therefore, if vividness alone were necessary to invest any new feeling, and the feeling that preceded it, with the relation of cause and effect, our external *impressions*, differing from our *ideas* in nothing but greater liveliness, should seem, whenever they disturb the course of our trains of thought, in the wildest reverie, to have the relation of efficiency, in one or other of its characters, to that object, the idea of which immediately preceded the sensation or perception of the external object.

Mr. Hume, indeed, very inconsistently finds in the successions of ideas something more than ideas which succeed. In considering them, he loses all his unwillingness to discover *connexion*. The transition itself, from one idea to another, he supposes to be felt, as if it were a *third* thing, and from this felt relation, our idea of *power* to be derived. "This connexion, therefore, which we *feel* in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression from which we form the idea of power or necessary

connexion." "When many uniform instances appear, and the same object is always followed by the same event, we then begin to entertain the notion of cause and connexion. We then *feel* a new sentiment or impression, to-wit, a customary connexion in the thought or imagination between one object and its usual attendant; and this sentiment is the original of that idea which we seek for." But it is evident, that, though A may have suggested B a thousand times, a customary *connexion* is no more *felt* between these two ideas than between any two events; if the word connexion be used to signify more than mere order in time. They are still, to use Mr. HUME's language, only *conjoined,* as proximate in a sequence. We know only that B has followed A a thousand times; and neither A nor B is "the idea of necessary connexion." B may be suggested by A; but we are conscious only of A, and afterwards of B, not of the *suggestion,* nor of any thing intermediate. It is by reflection only we know that they are proximate in order, as we know that the changes of external things have an order in which they too are proximate: but this is all which we know in either case; and the

proximity is not closer between our ideas than between the changes of external things, nor the belief of their future proximity more strong, or less intuitive.

To find in *the knowledge of any past sequence,* even of that of our own thoughts, a prototype of *the belief of future invariable sequence* is impossible. There is an assumption to be found in the belief, but not a copy. That, after the customary sequence of two objects, "the mind upon the appearance of one anticipates the senses, and forms immediately the idea of the other," is of no moment. This, if it be any thing more than mere memory, is, at most, only expectation; and the *idea,* or copy, of this impression, is not power, for that is something more, but is only a fainter expectation or a remembrance of expectation. In short, Mr. Hume's account of the origin of the idea of power either proceeds on the existence of the idea of power in our previous belief, or supposes it to be a copy of that from which it is completely different. It is enough for us to know, that the belief of similar antecedence and sequence is intuitive;—that our idea of power arises from our belief of that future similarity of

events, or rather is involved in the belief, and is only the feeling of invariable antecedence, attached to a particular object, in reference to another object, as its invariable consequent.

It thus appears, that, as the circumstances supposed by Mr. Hume to be peculiar to the phenomena which we term Causes and Effects, are, on his own principles, common to them with all the other phenomena of mind, *all* those phenomena, or *none*, should be accompanied with the belief of causation. Unless he have previously taken for granted a distinction of certain objects only, as causes and effects, his attempted explanation must be unintelligible; and, if he have previously taken it for granted, his attempted explanation is useless. The truth is, that every endeavour to explain what is allowed to be intuitive is a species of trifling, which may assume the semblance of philosophical analysis, but which never can be philosophy. A simple statement is all which is allowable in such a case; and, though Mr. Hume's laboured "Solution" were as true as it is false, the same difficulty which his acuteness before pointed out, would follow his reasoning through all its steps: for, whether the ideas be faint or vivid, the

resemblance of the future to the past, the great and only circumstance which perplexes us, must still be *assumed*, not *inferred*, from preceding phenomena.

Against the possibility of such a theory as that which makes the belief of Power to depend on mere vividness of conception, Nature seemed to have sufficiently guarded, by giving us, without any reference to causation involved in them, successions of trains of ideas, of every variety of liveliness, from the full force of vivid perception, to the faintest shadowings of remembrance. What innumerable images arise every hour to the most unpoetic fancy; and how small a part of life is composed of the actual perceptions of external objects! Resemblances, contrasts, a thousand circumstances of analogy, or of the events of other hours and other places, are perpetually calling us away from the objects that would arrest our senses, to that ideal universe within, in which the past, the present, and the future, mingle without distinction of time and place, or fade and rise again to exist as they existed before. But, while we wander, as if led along by some intellectual enchantment, in this fairy world of thought, we are not always

philosophizing, and fixing every new idea, as the effect of a preceding one. The brightness with which they rise, far from involving such a constant exercise of speculative precision, serves only to make our reverie longer, and the illusion, while it continues, more painful, or more delightful.

How, then, it will perhaps be said, was Mr. HUME able to deceive even himself? The question is a natural one, with respect to an error so obvious; and yet, if we attend sufficiently to the sources of self-illusion in the mind, we may find it to be a very probable inference, that the greatness of the error was the very circumstance which prevented the error itself from being perceived by him. If the belief of power had been less universally and irresistibly impressive, he would have perceived more clearly the insufficiency of his explanation of it. But the feeling of the relation is so immediate, and so little in need of any complicated circumstances, to evolve it, that, having always in his own mind a clear intuitive notion of it, he did not feel how inadequate the circumstances in his own statement were, to account for the original production of a belief, which, as never absent from his thought,

admitted therefore of easier extension to any circumstances in which he might consider himself as finding it.

It may be concluded, then, that firmness and liveliness of conception ought not to form any part of a theory of the belief of causation. *The consideration of events, as immediately prior and subsequent,* is all which is necessary to the belief, that, *in the same circumstances in future, the priority and subsequence of the phenomena observed by us will uniformly be the same.* Such, at least, was probably the original state of the mind; and such it would have continued, had only one event succeeded one event. The mode in which this original tendency to belief of the uniformity of particular sequences is weakened, was stated in a former Section, in which I explained, how Mr. Hume had erred, by confining his attention exclusively to the *secondary* operation of experience. It was then shewn, that the effect of the increase of knowledge which experience gives, is different in different stages; that its first tendency is to diminish the belief of future similarity of the order of the events observed, by giving us reason to suspect, that we may have observed, in apparent

sequence, parts of different co-existing trains; that, however, even the doubt which follows, is not, whether an event be *an* effect of *a* preceding one, but merely, of what preceding event it is the effect; that to aid our determination, in this respect, is the secondary operation of experience, which informs us, in what particular cases we have not been disappointed in our original expectation; and that, with the frequent renewal of this confirmation, our doubt or suspense is gradually lessened, and at last, perhaps, wholly removed. The belief becomes then what it would primarily have been, if there had been no complication of phenomena in nature, but the simple sequence of one phenomenon after another phenomenon; the effect of this complex experience having been only to free the mind from the supposition of possibilities of mistake which never could have been suspected, even as possibilities, but for experience itself, that corrects, in one stage of observation, the erring conjectures, to which, in another stage, it had given birth.

## SECTION VI.

In the preceding statement of Mr. Hume's theory of Power, and the endeavour to discriminate those parts of it which alone deserve our approbation, the office of philosophic criticism might seem to be fulfilled. But it is not enough to have shewn what his theory *is:* the universal misconception of it renders it necessary to show also what it *is not.* The author of the Essay, "on the idea of necessary connexion," has been uniformly represented, as denying the existence of the very idea of necessary connexion; and though so many years have elapsed since the publication of the work which contained his inquiry into the *origin* of the idea of power, it is still necessary to show, that the word *power* is not considered by him as altogether without meaning. That he does maintain it to be a word altogether without meaning, is the positive

assertion of Dr. Reid, and of the other philosophers by whom the doctrine was originally opposed; and this opinion, under the authority of respectable names, has become in our Schools of Metaphysics a sort of traditionary article of faith, and of wonder at the possible extent of human scepticism, so as to preclude even that very slight examination, which alone seems necessary to confute it.

That we have no idea of power whatever, which can enable us to form any distinction of the sequences of events, as casual or invariable, is, indeed, so completely opposite to the feelings of which every mind is at almost every moment conscious, that the presumption is very strong against the possibility of such an opinion. In the case of Mr. Hume, this presumption is verified. He does not deny, that we have an idea of *power* or of *invariable priority* in sequences: he denies only that we can *perceive* or *infer* it, as inherent in the subjects of a sequence.

All our *ideas*, I have already frequently said, are considered by him as copies of *impressions*. A very simple syllogism has therefore been formed for him, to express briefly the result of his inquiry: *We have no idea which is not a*

*copy of some impression; we have no impression of power; we therefore have no idea of power.* The major proposition of this syllogism is unquestionably maintained by him: and by those, who know nothing more of Mr. HUME's doctrine, than that he held that proposition, and had also some peculiar sceptical opinions on the subject of power, the remaining propositions of the syllogism may be readily supposed to have formed a part of his theory. But, when the mind has not been prepossessed by such an inference, it seems scarcely possible to read with ordinary attention the Essays on the subject, without perceiving, that the minor and the conclusion should be reversed. The syllogism, which is truly involved in the reasoning of those Essays, is the following: *We have no idea which is not a copy of some impression; but we have an idea of power; there must therefore be some impression, from which that idea is derived.* The major proposition, as we have seen, is drawn from too narrow an induction, or is founded on a vague and very fallacious definition of the word Idea: but the mode, in which it has rendered his subsequent reasoning inaccurate, is very different from what has been supposed.

It has not led him to deny the idea of power, or the belief itself, as a feeling of the mind; but it has led him, from the necessity of finding its corresponding "impression," to satisfy himself with a very erroneous theory of the "idea," and to imagine, that he had discovered its real prototype, where, but for the supposed necessity of finding a prototype of some sort, he could not have imagined that he had discovered the similarity that is stated by him.

In his Essays on the subject, Mr. HUME advances first his "Sceptical Doubts," in which he establishes the impossibility of *perceiving* or *inferring* any necessary connexion in the parts of a sequence,—an impossibility, which *seems* to render power a word without meaning. He then offers his "Sceptical Solution of these Doubts," in which he argues that power *is not* a word without meaning, since we have an impression, from which it may be supposed to be copied, in the feeling of a customary connexion of ideas, by which, after the experience of the sequence of two events, the mind passes readily from the idea of one to the idea of the other. That the *Sceptical Solution,* which asserts the *actual existence* of the idea of power is, by being

the subject of a new Section, separated from the *Sceptical Doubts*, which assert the *seeming non-existence* of the idea of power, cannot surely disqualify it from being considered as a part of the theory, which is composed of both; and indeed, in the single Section "Of the idea of necessary connexion," they are recapitulated, in one continuous argument. Yet, by an oversight that is altogether unaccountable, Dr. Reid, and the other writers who have considered Mr. Hume's theory, neglect the solution of the doubts, as if it formed no part of the theory, and thus gain an easy triumph over a scepticism, which its author himself had been the first to overthrow.

It is surely no very uncommon mode of analytic disquisition, to proceed, step by step, in search of a particular element, supposed to be present; to remark at intervals, that there as yet *seems* to be no such element, but that in our remaining progress we shall perhaps discover it; and afterwards, when some new circumstances evolve it to us, to conclude with remarking, that we have now discovered the element which we sought: yet, in all such cases, if a part of the analysis were considered alone,

when the important discovery had not yet been made, the indisputable inference would be, that the existence of the supposed element was denied by the sceptical inquirer. The mode of investigation described is exactly that which Mr. HUME has pursued. His inquiry is into the source of the *universal belief of causation.** He first seeks the source of the idea of necessary connexion, in single instances of sequence: but in these he observes only one event preceding another, without being able to perceive any circumstance, from which he can *infer* similarity of their future successions: and the *doubts*, therefore, which arise at this stage of the inquiry, may truly, *at this stage of inquiry*, be considered as well-founded; since perception and reasoning are evidently as incapable as he states them to be, of shewing us what the unexisting future is to present, and therefore of affording us the notion

* "All reasonings concerning matter of fact, seem to be founded on the relation of Cause and Effect."

"Here it is constantly supposed, that there is a connexion between the present fact, and that which is inferred from it."

"If we would satisfy ourselves, therefore, concerning the nature of that evidence, which assures us of matters of fact, we must inquire how we arrive at the knowledge of cause and effect."—SCEPTICAL DOUBTS.

of Power, which comprehends the future as well as the past. "All events seem entirely loose and separate. One event follows another; but we never can observe any tye between them. They seem *conjoined*, but never *connected*. And as we can have no idea of any thing, which never appeared to our outward sense or inward sentiment, the necessary conclusion *seems* to be, that we have no idea of connexion or power at all, and that these words are absolutely without any meaning, when employed either in philosophical reasonings, or common life. BUT THERE STILL REMAINS ONE METHOD OF AVOIDING THIS CONCLUSION, AND ONE SOURCE WHICH WE HAVE NOT YET EXAMINED. When any natural object or event is presented, it is impossible for us, by any sagacity or penetration, to discover, or even conjecture, without experience, what event will result from it, or to carry our foresight beyond that object which is immediately present to the memory and senses. Even after one instance or experiment, where we have observed a particular event to follow upon another, we are not entitled to form a general rule, or foretel what will happen in like cases; it being justly esteemed an unpardonable temerity to

judge of the whole course of nature from one single experiment, however accurate or certain. *But when one particular species of event has always, in all instances, been conjoined with another, we make no longer any scruple of foretelling one upon the appearance of the other, and of employing that reasoning, which can alone assure us of any matter of fact or existence. We then call the one object,* CAUSE, *the other,* EFFECT. WE SUPPOSE THAT THERE IS SOME CONNEXION BETWEEN THEM; SOME POWER IN THE ONE, BY WHICH IT INFALLIBLY PRODUCES THE OTHER, AND OPERATES WITH THE GREATEST CERTAINTY AND STRONGEST NECESSITY. It appears, then, that THIS IDEA OF A NECESSARY CONNEXION AMONG EVENTS arises from a number of similar instances which occur of the constant conjunction of these events."

It is indeed most strange, that he who thus endeavours to shew, how the idea of necessary connexion arises, should be the very person who is asserted and believed to deny, that we have any idea of necessary connexion, which can thus arise. He proceeds to point out more particularly the original *impression,* in that connexion of the ideas of objects which he supposes to be

felt by the mind, after experience of their sequence, and remarks, in a passage already quoted: "This connexion therefore which we feel in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression FROM WHICH WE FORM THE IDEA OF POWER OR NECESSARY CONNEXION."

If it be still requisite to produce further evidence of his acknowledgment of the idea of power, it may be found in the short summary of the whole doctrine, with which he concludes the Essay. To recapitulate, therefore, the reasonings of this section; every idea is copied from some preceding impression or sentiment; and where we cannot find any impression, we may be certain that there is no idea. In all single instances of the operation of bodies or minds, there is nothing that produces any impression, nor consequently can suggest any idea of power or necessary connexion. But when many uniform instances appear, and the same object is always followed by the same event, WE THEN BEGIN TO ENTERTAIN THE NOTION OF CAUSE AND CONNEXION. We then *feel* a new sentiment or impression, to-wit, a

customary connexion in the thought or imagination between one object and its usual attendant; AND THIS SENTIMENT IS THE ORIGINAL OF THAT IDEA WHICH WE SEEK FOR." The whole argument is nothing more than an expansion of that syllogism, which I proposed as the key to Mr. HUME'S speculations in his Essays on the subject: *We have no idea which is not a copy of some impression; we have an idea of power; there is therefore an impression of it, to be somewhere found.*

Since the doctrine was not originally delivered by Mr. HUME, in the form in which it now appears in his Essays, it may perhaps be thought, that some considerable change was made in it, and that, originally, it may have been such, as with reason to give rise to the opinion of it, which still prevails. But if we examine the Treatise of Human Nature, we shall find the doctrine to be the same in this respect,—implying the belief of the idea of power, as a feeling to which the mind is in certain circumstances necessarily determined, and *appearing* sceptically, at certain stages, to doubt its existence, only because at certain stages the supposed requisite prototype has not

been found. The Section "*Of the idea of necessary connexion*," commences with the following summary: "Having thus explained the manner *in which we reason beyond our immediate impressions, and conclude that such particular causes must have such particular effects;* we must now return upon our footsteps to examine that question which first occurred to us, and which we dropped in our way, viz. *what is our idea of necessity, when we say that two objects are necessarily connected together?* Upon this head I repeat what I have often had occasion to observe, that as we have no idea, that is not derived from an impression, we must find some impression that gives rise to this idea of necessity, if we assert we have really such an idea. In order to this, I consider in what objects necessity is commonly supposed to be; and finding that it is always ascribed to causes and effects, I turn my eye to two objects supposed to be placed in that relation; and examine them in all the situations of which they are susceptible. I immediately perceive that they are *contiguous* in time and place, and that the object we call cause, *precedes* the other we call effect. In no one instance can I go any farther,

nor is it possible for me to discover any third relation betwixt these objects. I therefore enlarge my view to comprehend several instances; where I find like objects always existing in like relations of contiguity and succession. *At first sight* this seems to serve but little to my purpose. The reflection on several instances only repeats the same objects; and therefore can never give rise to a new idea. But *upon further inquiry* I find, that the repetition is not in every particular the same, but produces a new impression; AND BY THAT MEANS THE IDEA WHICH I AT PRESENT EXAMINE. For after a frequent repetition, I find, that upon the appearance of one of the objects, the mind is *determined* by custom to consider its usual attendant, and to consider it in a stronger light upon account of its relation to the first object. It is this impression, then, or *determination*, WHICH AFFORDS ME THE IDEA OF NECESSITY." In various other passages of the Treatise, *the existence of the idea of power or necessary connexion* is equally admitted; and, even when doubts of its existence are expressed, they are qualified by phrases that limit the application of the doubt to those mere words of mystery which our

scholastic nomenclature has combined with the expression of the simple fact of the belief of invariableness of antecedence, in the order of the phenomena of Nature.

The history of the origin of the idea of power, which is thus delivered by Mr. Hume, is, as I have endeavoured to shew in a former part of this work, altogether inaccurate and inadmissible. The belief of power is an original feeling, intuitive and immediate on the perception of change; not borrowed from any *resemblance* in the transitions of thought. But, *whether the theory of power advanced by him be a just theory,* is one question: *whether he deny that we have any idea of power,* is another question. He may be right in the latter question, and be as wrong as I conceive him to be in the former. An error in the former question does not necessarily involve any dangerous consequences; for if we be irresistibly determined, as he allows, to ascribe to the antecedent in a sequence that invariableness of priority which constitutes power, we have all which is necessary for any physical or moral, or theological arguments, that are founded on the belief of power. The denial of the very idea of

any permanent relation, in the latter question, however, would necessarily involve the most dangerous consequences; for, if we could conceive it possible that a doctrine so false to the first principles of our nature should be adopted by any one, it would immediately deprive him of that foresight of the future which is necessary for the physical purposes of life, and of all the consolation and peace, and happiness, and virtue, of a filial security in the existence of the Father and Sovereign of the Universe. It is, therefore, no common misrepresentation of a theory, to ascribe to it falsely a denial of the idea of power; and to ascribe it to the theory of Mr. Hume is assuredly a misrepresentation.

The circumstances, which Dr. Reid has urged, in opposition to this almost inconceivable scepticism, which he ascribes to Mr. Hume, are, we shall accordingly find, equally consistent with the theory which he wished to overthrow, as with that which he has himself asserted. Nor is this harmony of the theories at all wonderful: for, that we are determined irresistibly to the belief of *invariableness of antecedence*, is allowed by Mr. Hume,—that our belief of power is

intuitive, is the opinion of Dr. Reid,—and, however opposite his language may be, *invariableness of antecedence* is the very *power* for which Dr. Reid contends. His arguments for the existence of the idea of power, therefore, instead of being, as he supposed, demonstrative of fallacy in the negative part of Mr. Hume's reasoning, must be allowed to form a strong additional support of its truth; since it will appear, on examination, that the belief of *invariableness of antecedence* is all which is essentially comprised in those very arguments, that are adduced as involving necessarily the existence of the idea of *power*. To prove the one, is, indeed, to prove the other; but it is not to afford the slightest proof of any thing additional.

For the purpose of examination, I copy from Dr. Reid the paragraph, in which he recapitulates his arguments.

"The arguments I have adduced, are taken from these five topics: 1. That there are many things that we can affirm or deny concerning power, with understanding. 2. That there are, in all languages, words signifying, not only power, but signifying many other things that imply power, such as action and passion,

cause and effect, energy, operation, and others. 3. That in the structure of all languages, there is an active and passive form in verbs and participles, and a different construction adapted to these forms, of which diversity no account can be given, but that it has been intended to distinguish action from passion. 4. That there are many operations of the human mind familiar to every man come to the use of reason, and necessary in the ordinary conduct of life, which imply a conviction of some degree of power in ourselves and in others. 5. That the desire of power is one of the strongest passions of human nature."*

It is scarcely possible to read these arguments, without perceiving immediately, that they confound *loose and variable* with *invariable* sequences. If there be any bold sceptic, who denies that we expect, in future, a similarity of result, from circumstances similar to the past, the force of the proof must be allowed to be irresistible: but it is of no force, when directed against that very different theory, which allows that we are determined, by the very nature of

* Essays on the Active Powers, Ess. i. chap. 2.

our mind, to expect, in all future time, from similar circumstances, a similarity of result.

That there are "many things which we can affirm or deny concerning power, with understanding," is an evident consequence of this principle. We may say, of a loadstone, that it *has the power* of attracting iron, which gold *has not*; because we have observed the past difference of the sequence, when, after making the experiment with gold, a loadstone was substituted, and because we believe, that the approach of a loadstone will *continue* to be followed by the motion of iron, which gold, *as before*, will suffer to remain at rest. In like manner we rely on the muscular strength of one man, as greater than the strength of another, because we have seen the one to sink beneath a burthen, which the other sustained with ease. We expect again what we have before observed in the same circumstances; but we do not expect, in these circumstances, what we did not observe before.

The minor observations on Power, included by Dr. Reid in the reasonings of this primary argument, may perhaps be thought to deserve our attention. "1. Power is not an object of any of our external senses, nor even an object

of consciousness." This agrees completely with what has been stated in Mr. HUME's Sceptical Doubts. "2. A second observation is, That as there are some things of which we have a direct, and others of which we have only a relative conception, power belongs to the latter class.—Our conception of power is relative to its exertions, or effects. Power is one thing; its exertion is another thing." This is only to say, that *invariableness of antecedence* is one thing, and *one single fact of antecedence* is another thing. "3. It is evident that power is a quality, and cannot exist without a subject to which it belongs." Assuredly there can be no invariableness of sequence, without antecedents and consequents. "4. We cannot conclude the want of power from its not being exerted; nor from the exertion of a less degree of power, can we conclude that there is no greater degree in the subject." Invariableness of sequence is supposed, *when the previous circumstances are similar;* but we cannot predict events, when the circumstances are different. From the mere silence of any one, we cannot infer that he is dumb, in consequence of organic imperfection. He may be silent, only because he has no desire of speaking, not

because speech would not have followed his desire; and it is not with the mere existence of any one, but with his desire of speaking, that we suppose utterance to be connected. A man, who has no desire of speaking, has truly, if we are to express ourselves with strict philosophic precision, no power of speaking, as long as the mind continues in that state; since he has not the circumstance, which, as always immediately prior, is essential to speech, as much as any other antecedent is essential to any other consequent; but, since he has that power, as soon as the new circumstance of desire arises, and since the presence or absence of the desire cannot be perceived but in its effects, there is no inconvenience in the common language, which ascribes the power of utterance as a faculty possessed at all times, and in all circumstances of the mind; though, unquestionably, nothing more is meant, in this more extensive reference, than that the desire, when it exists, will be followed by the words which correspond with it. "5. There are some qualities that have a contrary, others that have not; Power is a quality of the latter kind." This is a proposition of no value, and has no relation to the general argument.

In all languages, there *must* be such words, as *action, passion, cause, effect,* &c. if in all nations the sequences of events be supposed to be invariable. That, which existing is always followed by a change, is very different from that of which the change always follows something prior; and it, therefore, is not wonderful that different names should have been invented, to express the difference. But the deflagration of gunpowder will be expected from the contact of a spark, with equal certainty, whether we say, that a spark, in such circumstances, *is always followed* by deflagration, or, merely using different words, say, that the spark has *an active power* of deflagrating gunpowder.

To the same principle are to be traced the different forms of verbs. A spark *kindles* gunpowder: gunpowder *is kindled by* a spark. It is as little wonderful, that there should be active and passive verbs, as that there should be such words, as *before* and *after, first* and *second.*

We proceed on the belief of power, both in ourselves and others, because we proceed on the belief, that similar circumstances will have similar results. I resolve to walk with my friend; for I believe, that my desire of moving my limbs

will be followed by their motion: I trust that my friend will accompany me; for I believe, that in him there will be a similar sequence of motions to volitions, and that the separate volitions or desires, which precede the separate motions, will follow his general expressed intention, in the same manner as they have usually followed it.

Ambition is the desire of power; and ambition is a passion that is felt by us. But the desire of power is nothing more than the desire of being obeyed: and we trust, that, in certain circumstances, we shall be obeyed by the multitude; because we have observed the circumstances which have led to obedience, and believe that similar motives of fear and hope will continue to be followed, on their part, by similar actions. Since we are capable of anticipating those sequences of human conduct, it is not more wonderful, that power should be desired, and that there should thus be a passion of ambition, than that food should be desired by the hungry or by the luxurious, who expect from it the same relief from uneasiness, and the same pleasure, which they remember to have received from it before.

Such are the arguments of Dr. Reid, which, though they may be allowed to prove, if proof were necessary, that we do not regard the successions of events as altogether irregular, cannot surely be considered as establishing any relation, which is not implied in the theory of Mr. Hume, and in every theory which proceeds on an irresistible determination of the mind to the belief of uniformity of order in the physical changes of the universe. *Power* is only a shorter synonymous expression of *invariableness of antecedence:* and the invariableness is not any thing separable or distinguishable from the antecedents and consequents themselves. In all the changes which the substances in nature undergo, the substances themselves alone have any real existence; and what we term Power, in the anticipation of any future change, is itself the antecedent substance, or it is nothing.

## SECTION VII.

That Mr. Hume, in regarding our belief of power as intuitive, and yet considering "the idea of necessary connexion," which is only that belief itself, to be derived from another "impression," had not fixed in his own mind with due precision the meaning of his terms, and was not aware how little reason there is to apply the term Sceptical to any theory of Causation, which, allowing the invariableness of events as antecedent and consequent, allows truly every thing that has been understood in the more mysterious phrases of Efficiency employed by other writers, —is, I think, very evident, from the clearer analysis which, as I flatter myself, I have given, both of the belief itself, and of the circumstances which evolve it: but, that he does believe the mind to be determined irresistibly to a feeling of the relation of Cause and Effect, is not less true

on account of the seeming want of exactness in his terms, or in his conception of the circumstances in which alone he supposes the feeling to arise.

If, however, our belief of power be shewn to depend, not on perception, nor on reason, but on an instinctive determination of the mind, may not this statement, it will perhaps be objected, give rise to the denial of power, and may not atheism itself, with all its guilt and wretchedness, be made to flow from it? To loose and superficial thinkers, such an objection may be supposed very readily to occur: but it will not be the objection of a mind that has been accustomed to philosophical inquiry, and that has attended to the nature of the evidence on which all inquiry ultimately rests. If the intuitive belief be fallacious, it must be admitted, indeed, that there is then no power; but, if such belief be fallacious, is there power, whatever be our theory? Is not the truth of our perception, the truth of our reasonings, and every imaginable truth, dependent, more or less directly, on some principle of the same kind;—and is the supposed danger to be confined to one theory, if it be impossible, even for our imagination, to devise another, to

which exactly the same objection would not be equally applicable ?

Let us suppose, that, instead of Mr. Hume's negations, every proposition had been affirmative : let us first suppose him to have maintained power to be discoverable *à priori*,—in short, to be *perceived* like light and sound ; would the truth of this statement, even though it were to be instantly admitted by every mind, be absolute and independent, or rather, would it not still be dependent on a principle, involved in the very belief that is attached to perception ? Is it an absurd and unintelligible proposition, that the external substances, which we consider as perceived by us, do not exist ; or that, if there be substances without us, they may be different in every respect from what we suppose them to be ? It is a proposition, I own, to which no one assents : but it is a conceivable proposition ; and the only reason of our withholding our assent is, that, from a principle of our very nature, we find it impossible not to believe, during the state of mind which is termed Perception, that we are perceiving realities, and that the realities, which we perceive, exist as we perceive them. In like manner, it is a

conceivable proposition, that, notwithstanding the most frequent and uniform proximity in the succession of two objects, the relation of cause and effect, or of future invariable sequence, may not exist between them: but it is a proposition which, in like manner, we cannot believe; and the only reason of our disbelief is, that, from a principle of our nature, we find it impossible, in such circumstances, not to believe the uniformity.

Let us next suppose, that Mr. HUME had maintained the relation to be discoverable by a process of reasoning, and that the truth of his theory was admitted by us as logically demonstrated; could we say of the truth, even then, that it is in the strictest sense of the terms, *absolute* and *independent* of all imaginable contingency, or must it not, in this case also, be allowed to depend, in every stage of the reasoning, on the primary validity of some principle, which does not result from the argument, but gives the argument itself all the force which it possesses? That the propositions between which we think that we perceive the most exact agreement, so as to infer with certainty, that what is true of the one must be equally true of the

other, may yet have differences unknown to us, and incapable of being discovered by our limited faculties, but sufficient to vitiate the conclusion, which, from our ignorance of those differences, we believe that we have drawn with perfect accuracy, is not an unintelligible proposition; and why, in any particular instance, do we not assent to it? It is not from the perceived agreement of any other propositions; for the belief of these must have proceeded on the same assumption: it is only because, by a principle of our nature, we find it impossible not to believe the absolute truth of that which we can know only as relative to the faculties which we possess. Is the principle of this belief less a principle of intuition, than that by which we are led inevitably to the belief of the relation of cause and effect? Is it alone universal, and the other partial? Or, if there be degrees, have we not rather a more undoubting belief, that any phenomenon perceived by us is an effect of some preceding change, than that the result of any of our logical inferences from the appearances of things is absolutely true? It is conceivable, without any difference of the sequence of the mental phenomena which form the whole of our

consciousness, that man might have been created capable of perceiving, or rather of imagining that he perceived, external qualities where there are none,—of inferring agreement where there is none,—of supposing causation where there is none. He cannot think that he was so created in any one of these three cases; but that he cannot, is, in all the three cases, and in all alike, owing to a principle of belief which is primary and independent of argument. What, then, are we to say of the danger of negations, which remains exactly the same when the negations are reversed? If, indeed, the ultimate evidence be of the same kind, the possibility of mistake is not diminished, but increased, by the number of consecutive propositions; and, therefore, if the belief of power were supposed to arise from a process of ratiocination, not from an immediate and irresistible determination of the mind, it would still be as dependent as now on some primary intuition, and would have no other difference, than that of being a little more liable to mistake.

It may be remarked also, of the demonstrations of reasoning, that, in addition to the general principle that determines to the belief

of the agreement of the separate propositions, there is always some primary proposition, of which the truth is as much assumed as that of causation, which serves as the basis of the propositions that follow; and without the assumption of the truth of which, as independent of the argument that follows it, there must either be an infinite series of propositions, or no belief whatever. The force of the objection is thus doubled, or more than doubled, when applied to any theory, which derives the belief of power from a process of reasoning.

To ascribe the origin of the belief to a principle of intuition, it appears then, is, if the intuition be real, to fix it on the firmest possible foundation. Whatever may be thought of the truth of such a reference, it is surely not to be confounded with that vain and frivolous scepticism, which would affect to deny the reality of the belief itself: and yet, it has been so confounded by the opponents of Mr. Hume, who uniformly argue, as if, not content with denying the possibility of perceiving, *à priori*, or of inferring by reason, the invariable future sequence of any two objects, he had denied also, that such a sequence is an object of our belief. The

misconception of this part of his doctrine has been already, however, pointed out. The universality of the intuition, and the irresistible influence on our reasoning and conduct, with which it is accompanied, are stated by him in the fullest and liveliest manner, and are, in truth, as has been shewn, the very difficulty, which, inconsistently, but industriously, he labours to solve.

It would not be easy, indeed, to imagine language on the subject, stronger and more explicit, than that of Mr. HUME himself. "This belief," he observes, "is the necessary result of placing the mind in such circumstances. It is an operation of the soul, when we are so situated, as unavoidable as to feel the passion of love, when we receive benefits; or hatred, when we meet with injuries. All these operations are a species of natural instincts, which no reasoning or process of the thought and understanding is able, either to produce or to prevent."*

On whatever principle the force of experience depend, "none but a fool or a madman," he says, "will ever pretend to dispute the

* Essays, Sect. V. Part I.

authority of experience, or to reject that great guide of human life." His scepticism, therefore, as to the relation of cause and effect,—if the suspicious name of *scepticism* must be given to a question of the justest philosophic analysis,—consists, not in denying any one of our first principles, but in tracing to one of them, as its ultimate source, the force of our various reasonings on the uniformity of the order of Nature.

When BERKELEY, not content with hesitating as to the grounds of our belief in an external world, boldly denied its existence, what dangerous consequences might have been supposed to flow from the denial! How absurd, it might be said, did all social virtue become, to man, who was to be for ever in a state of solitude; and what magnificent arguments for the existence of a Deity were annihilated in the general desolation produced by a few propositions! These desolating propositions it is not easy for mere logic to confute: yet no evil consequence can flow from them; because they are opposed by feelings akin to those which are the ultimate source of all conviction, and paramount to demonstration itself. The principle by which, in the state of mind that is termed

perception, we consider our sensations as *marks* of the existence of an external world, has a force too powerful to be weakened by any theory; and even the celebrated sceptic who opposed it, inconsistently but amiably pious and benevolent, was, at the time of his opposition, so completely under its influence, as to deliver his theory, professedly for the confutation of those very freethinkers and atheists, whose actual existence his theory, if rigidly examined, might be considered almost as denying, or at least as rendering in the highest degree doubtful.

When we address a philosopher, who speculatively has no doubt that it is to a principle of this kind alone our sensations are evidence of things external, we believe, as much as when we address the vulgar, that he will be moved by the reasonings which are founded on the belief of external things; because it is his belief alone, not the source of it, which we address. If that belief be the same, whether it be intuitive or demonstrative, his judgments, and emotions, and actions, will be the same. He will approve and disapprove, and hate, and fear, and despise, and love, alike in either case. In the same manner, if a philosopher believe the

relation of cause and effect, every reasoning founded on that belief will be the same, whether the evidence of the relation, as felt in its irresistible force, be intuitive or demonstrative; and we have exactly the same reason to fear, that the common duties of social life will be altogether omitted by him, because he regards as intuitive his belief of the external existence of the persons and places, and things to which his duties relate, as that he will deny any power whatever, because he regards as intuitive his belief of the relation of Cause and Effect.

How many perplexities are involved, in the whole doctrine of infinities! Yet we do not less believe the doctrine of the infinite divisibility of matter, because the most ludicrous absurdities may be inferred from it. It may be proved unanswerably, as far as mere logic is concerned, that no portion of the earth's surface, however small in appearance, can ever be traversed by a moving body, however rapid its motion may be: for, to pass from one point to another, some time, however small, is requisite; and therefore, since the space supposed is infinitely divisible, to pass over an infinite number of parts, must require an infinite number of times. Yet, though the

conclusion be logically irresistible, it is a conclusion, at which we smile only, without admitting it; and we certainly should be astonished at the zeal of any devout theologian, who should be shocked with the dangerous consequences of the doctrine of the infinite divisibility of matter, because it might be shown from it, that the Children of Israel must have spent a whole eternity, before they could have passed through the wilderness, or even through the Red Sea. There are principles independent of reasoning, in the mind, which save it from the occasional follies of its own ratiocinations. By these, we can believe, where there is no argument, and can disbelieve, where there is argument, without a single demonstrative imperfection. It is from them, indeed, as we have seen, that every argument derives its force; and therefore, if there were no belief without reasoning, there could be no reasoning whatever, and Demonstration itself would be a word altogether meaningless.

In ascribing the belief of efficiency to such a principle, we place it, then, on a foundation as strong as that on which we suppose our belief of an external world, and even of our own identity,

to rest. What daring atheist is he, who has ever truly disbelieved the existence of himself and others? For it is he alone, who can say, with corresponding argument, that he is an atheist, because there is no relation of cause and effect. The doctrine of the intuitive belief of that relation may, indeed, have been dangerous to him who does not go to bed that he may sleep, nor rise that he may enjoy another day, nor stretch out his hand to grasp an object, nor eat that he may satisfy his hunger: but it is only to an individual so unlike all the human beings around us, that the doctrine can have had any evil consequence; for he who performs a single action of daily life, in reliance on the similarity of the future to the past, has already confessed the existence of God,—as far as the belief of the existence of God depends on the belief of mere causation. If, as Mr. Hume confesses, "none but a fool or a madman" will deny the authority of that principle, he confesses that none but a fool or a madman will deny the just reasonings, which are founded on that principle. The theism which flows from it, will therefore be as much believed by him, as the simple proposition, which also flows from it, that

fire will warm him to-morrow; or, if he affect to disbelieve the theism, he will state as the reason of his disbelief, some supposed inconsistency in parts of the ratiocination, not his doubt of that fundamental principle, by which alone, he can expect warmth from the fire of to-morrow. "Nature," as Mr. HUME has well observed, "will always maintain her rights, and prevail in the end, over any abstract reasoning whatsoever. Though we should conclude, for instance, that in all reasonings from experience, there is a step taken by the mind, which is not supported by any argument or process of the understanding; there is no danger, that these reasonings, on which almost all knowledge depends, will ever be affected by such a discovery. If the mind be not engaged by argument to make this step, it must be induced by some other principle, of equal weight and authority; and that principle will preserve its influence as long as human nature remains the same."

When we examine the systems of atheism, which have been given to the world, and which have produced any impression on the weak and unfortunate minds that have been subject to their influence, we find some which are founded

on false and extravagant analogies of productive powers in matter, or on narrow views of the Universe, and on an unwillingness to discover in it marks of creative design and goodness; but we do not find any which are founded on a general disbelief, that prevents the expectation of warmth from fire, and of relief of hunger from food. Even he, who professes to discover no traces of the designs of a Creator, is himself a designer every moment; and little reason is there, therefore, to fear the atheistic effects of any doctrine, which does not prevent us, if the theological argument be well stated, from having as much belief in the existence of God, as we have in our own continued existence, or in the existence of the friend who may be sitting beside us, or in the warmth of fire, and the coldness of snow.

While Mr. Hume then, admits, and expresses as strongly as any other philosopher, the force of that determination of the mind, by which we are led irresistibly to the belief of power; the suspicion attached to his doctrine with respect to it, must have arisen from the general character of his writings, not from attention to this particular part of them; for, since all are able to understand the words of praise or censure, in

which a general character may be conveyed, and few are able to weigh and appreciate the works from which that character has arisen, there are many who hate and dread a name, without knowing why it is that the name should be dreaded, and tremble at the consequences of opinions, which, if they knew what those opinions were, might seem to them as void of danger as their own, from which they have, perhaps, no other difference than of the mere phrases employed to express them.

That, in Mr. HUME's view of the origin "of the idea of necessary connexion," many errors are intermixed with his assertion of the irresistible determination of the mind to the belief of power, I need not repeat, after the exposition of those errors in so many of the preceding pages. But, when he states, as the result of his Sceptical Doubts, the general proposition, "that in all reasonings from experience, there is a step taken by the mind, which is not supported by any argument or process of the understanding," he asserts nothing more in this doctrine than his opponents themselves assert. The followers of Dr. REID, and the followers of Mr. HUME, are in this respect in perfect harmony. The only remark-

able circumstance is, that while Dr. Reid* admits our belief of uniformity of order in the sequences of events in Nature to be the belief of "a contingent truth," that is not susceptible of proof by reasoning, as having itself the evidence of "a first principle," he still thinks that he is the asserter of a doctrine very different from that with which he completely agrees, —attacking in Mr. Hume a scepticism, which does not differ in any respect from his own, and asserting most strenuously the force of that instinctive belief of power, of the irresistible force of which Mr. Hume is himself an equally strenuous asserter.

The just analysis, then, which reduces our expectation of similarity in the future trains of events to intuition, we may safely adopt without any fear of losing a single argument for the existence of God, or for the existence of any of the humbler causes, that are continually operating around us;—till it be shown, that physical

* "As this belief is universal among mankind, and is not grounded upon any antecedent reasoning, but upon the constitution of the mind itself, it must be acknowledged to be a first principle, in the sense in which I understand that word." —Essays on the Intellectual Powers, Essay VI. chap. v. *On the First Principles of Contingent Truths.*

demonstration itself is not dependent for all its force, on some primary truth of the same order, and that hence, if the belief of power had depended, not on an immediate and irresistible determination of the mind, but on reason, it would have rested on a principle of surer evidence.

# NOTES.

# NOTES.

## Note A. Page 13.

"Similar objects," says Mr. Hume, "are always conjoined with similar. Of this we have experience. Suitably to this experience, therefore, we may define a cause to be, *An object followed by another, and where all the objects, similar to the first, are followed by objects similar to the second. Or, in other words, where, if the first object had not been, the second never had existed.*" This last circumstance, if very rigidly examined, is not admissible into a just definition of a cause, in circumstances like those of the physical universe, in which there is at the same moment a concurrence of many trains of phenomena; however just it might have been, if there had been only a series of antecedents and consequents in one simple train. Though there may be no permanent and uniform relation of the concurring trains to each other, there is yet no improbability in the supposition, that there may often be such a relation of the antecedent in one of the trains to the phenomenon which is immediately consequent in another of the trains,

that the change might have taken place, though the antecedent to which we refer it in that particular sequence, had been absent: and every definition, therefore, must be erroneous, that excludes the possible agency of co-existing objects, which, separately, might have been sufficient to produce the particular phenomenon, that is referred to any one of them. A hand, for example, may hold a piece of iron, and may approach a loadstone with it, in exactly the same direction, and with exactly the same velocity, as that with which the iron, if free, would itself have approached it. In this case, it is evident, that, whether we regard the motion of the iron as produced by the hand, or by the loadstone, *the first object might not have been, and yet the second might have existed.* The addition of this circumstance is, however, of no essential consequence to the theory of causation, which depends only on the believed invariableness of the sequence, in past, present, and future time, and does not require of us to take into account, what might, or might not, have been, in other situations, in which the antecedent was different from that of which, and of which alone, the relation to the particular consequent is felt by us.

In the same spirit of rigid scrutiny, I may remark, that the phrase, in Mr. HUME's definition of a cause, *one object followed by another*, is inaccurate, if the word Object be used synonymously with Substance, and is not sufficiently precise, if it have any other meaning. There may be causation, where there is one substance, and

only one substance, the changes of which are reciprocally antecedent and consequent; as, in other cases, the changes to which we give the name of Effects, are produced in one substance, on the presence of another. Such is the species of causation, in a very large proportion of the affections of the mind, that do not result from the direct influence of external things, but from previous feelings of the mind itself. The contemplation of some distant good, which is one state of the mind, is followed by the desire of that good, which is a different state of the same mind; and the one feeling is the cause of the subsequent feeling, as much as the presence of a lens on which a sun-beam falls, is the cause of the convergence or dispersion of the rays. In like manner, when a body continues in motion, the cause of the motion at any one moment is not the primary impelling force, which has ceased, but the state of the moving body itself, at the moment preceding that in which the motion is observed by us. The cause and effect, therefore, in a sequence of changes, are not necessarily different substances; they may be only the same substance, in successive states, either different or similar.

Still, however, whether the cause and effect be different substances, or different states of the same substance, the cause must always be *a substance existing in a certain state*, and the effect, too, *a substance existing in a certain state*. We sometimes, indeed, in speaking of cause and effect, apply the terms to *objects*,

sometimes to *events:* but there is in this case no real difference. *Events* are *objects* beginning to exist in different circumstances; and the word has no meaning, but as significant of the objects themselves in these altered circumstances. When we say, then, that one event is the cause of another, we do not mean, that an event is any thing different from the objects that are before us at the time of its occurrence. There are some objects, the presence of which, in all circumstances, is attended with a certain effect; there are other objects, of which the presence is only in certain circumstances productive of change; and it is in this latter case, that we are accustomed to speak of an *event,* as the cause of a change; because the reference signifies, that the *object,* which is the real cause, *has* begun to exist *in the particular circumstances,* in which alone it has been formed by nature to be the antecedent of the particular change. When a certain change is the consequence of the presence of an object in all circumstances, even the vulgar think only of the object itself, in their reference of causation. Thus, as the sun is never visible without an increase of heat, they have no hesitation in saying, that *the sun* is a cause of heat. But, when it is only in certain circumstances that an object is productive of change, we almost lose sight of the simple object itself, in our reference, and transfer the causation to that change of circumstances, by which the object has begun to exist in the particular state of fitness. A single word is, in this way, sufficient to express, what might other-

wise require the paraphrastic use of many words. When gunpowder, which is inert, as long as it remains a dark mass before us, becomes a destructive force when kindled, we ascribe the violent concussion, in common language, not to the gaseous products in their state of high elasticity, which are the antecedent *objects* or real causes, but to the *explosion* of the gunpowder; expressing briefly, in a few syllables, what would require many hard words, if we were to endeavour to express it with chemical precision. Yet it is evident, that to consider an *event*, rather than an *object*, as the cause of any change, is only to go back an additional step in our reference, and to ascribe the effect, not to those circumstances immediately preceding it, which in scholastic language are termed the proximate cause, but to the circumstances immediately preceding that proximate cause.

## Note B. p. 13.

To the universal *priority* of causes, there is in name, but in name only, one apparent exception, in the mode of considering the phenomena of the world, in relation to the supposed plans of the Supreme Being; since the term is then applied, not to the prior, but to the subsequent event. The *final cause* of any thing is the good which *follows* it. Thus, since adversity rouses and exercises the magnanimity of the sufferer, and the benevolence of those who are witnesses of his sufferings, a philosophic

optimist considers the production and strengthening of those noble qualities, as the final cause of every physical evil. But it is evident, that even in this application of the term, the real implied cause is prior; and it is only from a double metonymy, that it appears to be subsequent. The two events observed by us are, in the expression, placed for those circumstances, which we suppose to have preceded them in the Divine Mind; and we mean only, that *the consideration* of that virtue, which adversity would tend to produce or cherish, was the cause of that Divine purpose or *volition*, in consequence of which adversity exists. It is in relation to the Deity alone, that the phrase is at all intelligible; and, in relation to his design, the consideration of that good which we term the final cause, and not the instrumental evil, which to our observation precedes it, was in truth the prior circumstance. He conceived the good;—he willed it;—and, willing it, willed also what was to produce it.

## Note C. p. 21.

So little are the qualities of a substance distinguishable from the substance itself, that what we term a Substance is expressive only of the co-existence of certain qualities. By its qualities we know it; and if, in our conception, we endeavour to strip it of these, we leave nothing, that is capable of becoming known to us, as actually existing;

for it can be observed by us, only as being that of which the presence is the antecedent of certain changes, in us, the observers. We speak of ice, for example, as a substance; and we say, that it is of a certain weight, cold, pellucid, liquefiable at a certain temperature. But, if we examine what is meant in these words, we shall find, that what we thus ascribe as qualities to the ice, are only relations of antecedence to certain feelings excited in us, either directly, or indirectly, through the medium of other changes of external things. The coldness, pellucidity, weight, and other qualities combined with these, are, when united in the single reference that combines them as co-existing, the ice itself; while they continue, therefore, it continues; and, when they cease, whatever there may remain, which beings of a different order may be still capable of knowing, to us, at least, there is nothing.

## Note D. p. 87.

When I speak of the doctrine of physical and efficient causes, as representing, under another name, the Cartesian doctrine of occasional causes, I speak of its similarity only, and not of the period in which it had its origin. I am aware that the same sort of distinction prevailed long before Descartes, as well as after him, and indeed may be considered as common to all the systems of philosophy, ancient as well as modern, that regarded the powers of nature, as something different from the physical antece-

dents themselves. It was impossible for the inquirer into nature, even in the rudest age of philosophy, not to perceive, that certain objects were uniformly followed by certain other objects; and therefore, if, to account for this uniformity of order, he believed that it was necessary to have recourse, in every sequence of events, to some mysterious agency, this belief itself, whether expressed or not expressed in words, must have involved the very distinction of physical and efficient causes, which those phrases are now employed technically to denote.

## Note E. p. 93.

The *possibility* of the occasional direct operation of the Power which formed the World, in varying the usual course of its events, it would be in the highest degree unphilosophical to deny: nor can we presume to estimate the degree of its probability; since, in many cases, of the wide bearings of which on human happiness we must be ignorant, it might be the result of the same benevolent motives which we must suppose to have influenced the Divine Mind, in the original act of creation itself. But the theory of the Divine government, which admits the possibility of such occasional agency, is very different from that which asserts the necessity of the perpetual and uniform operation of the Supreme Being, as the immediate or efficient cause of every phenomenon. The will of the Deity, whether displayed in those

obvious variations of events, which are termed Miracles, or inferred from those supposed secret and invisible changes, which are ascribed to his Providence, is itself, in all such cases, to be regarded by the affirmer of it, as a new physical antecedent, from which, if it really form a part of the series of events, a difference of result may naturally be expected, on the same principle, as that on which we expect a change of product, from any other new combination of physical circumstances.

It is on this view of the Divine Will,—as itself, in every case in which it may be supposed to operate directly in the phenomena of the universe, a new circumstance of physical causation,—that every valid answer to the abstract argument of Mr. Hume's Essay on Miracles must, as I conceive, be founded. The great mistake of that argument does not consist, as has been imagined, in a miscalculation of the force of testimony in general; for the principle of the calculation must be conceded to him, that, whatever be the source of our early faith in testimony, the rational credit, which we afterwards give to it, in any case, depends on our belief of the less improbability of the facts reported, than of the ignorance or fraud of the reporter. If the probabilities were reversed,—and if it appeared to us less probable, that any fact should have happened as stated, than that the reporter of it should have been unacquainted with the real circumstances, or desirous of deceiving us,—it matters little from what principle our faith in testimony may primarily have flowed: for there is surely no one, who will contend,

that, in such a case, we should be led by any principle of our nature to credit that which appeared to us, at the very time at which we gave it our assent, unworthy of being credited, or, in other words, less likely to be true than to be false.

Whether it be to experience that we owe our belief of testimony in general, or whether we owe to it only our knowledge of the possibilities of error or imposition, which makes us hesitate in admitting any particular testimony, is of no consequence then to our belief, in the years in which we are called to be the judges of the likelihood of any extraordinary event that is related to us. It is enough that we know, as after a very few years of life we cannot fail to know, that it is possible for the reporter to be imperfectly acquainted with the truth of what he states, or capable of wishing to deceive us. Before giving our complete assent to any marvellous tale, we always weigh probability against probability; and if, after weighing these, it appear to us more likely, on the whole, that the information is false, than that the event has really happened, in the manner reported, we should not think ourselves, in the slightest degree, more bound to admit the accuracy of the narrative, though a thousand arguments were urged, far more convincing than any which have yet been offered to persuade us that there is an original tendency in the mind, before experience, to believe whatever is related, without even the slightest feeling of doubt, and consequently, without any attempt to form an estimate of its degree of probability.

It is not in any miscalculation, then, of the force of general testimony, whether original or derived, that the error of Mr. HUME's abstract argument consists. It lies far deeper, in the false definition of a miracle, which he has given, as "a violation of the laws of Nature;"—a definition, which is accordant, indeed, with the definitions that have been usually given of it by theologians, but is not on that account more accurate and precise, as a philosophic expression of the phenomena intended to be expressed by it. To the theologian himself it is, I conceive, peculiarly dangerous; because, while it makes it essential to the reality of a miracle, that the very principle of continued uniformity of sequence should be false, on which our whole belief of causation, and consequently of the Divine Being as an operator, is founded, it gives an air of inconsistency, and almost of absurdity, to the very assertion of a miracle, and at the same time deprives the doctrine of miracles of its principal support against an argument, which, if his definition of them were philosophically a just one, Mr. HUME must be allowed to have urged very powerfully against them.

In mere philosophy, however, the definition, though we were to consider it, without any theological view, simply as the expression of certain phenomena of a very peculiar kind, is far from being just. The laws of Nature, surely, are not *violated* when a new antecedent is followed by a new consequent; they are violated, only when, the antecedent being exactly the same, a different consequent is the result: and if such a violation,—which,

as long as it is a part of our very constitution, to be impressed with an irresistible belief of the uniformity of the order of Nature, may be said to involve, relatively to this belief, a physical contradiction,—were necessarily implied in a miracle, I do not see how the testimony of any number of witnesses, the wisest, and most honourable, and least interested from any personal motive in the truth of what they report, could afford evidence of a miracle that might amount to proof. The concurring statements might, perhaps, be sufficient to justify a suspension of judgment between belief and disbelief; but this suspension is the utmost, which the evidence of a fact so monstrous, as the sequence of a different consequent when the antecedent had been exactly the same, could reasonably claim. When we have once brought our mind to believe in the violation of the laws of Nature, we cannot know what we should either believe or disbelieve, as to the successions of events; since we must, in that case, have abandoned for the time the only principle on which the relation of cause and effect is founded: and, however constant the connexion of truth with testimony, in the most favourable circumstances, may be, it cannot be more, though it may be less, constant, than the connexion of any other physical phenomena, which have been, by supposition, unvaried in their order of sequence, till the very moment of that supposed violation of their order, in which the miracle is said to consist.

Let us suppose a witness, of the most honourable character, to state to us a fact, with which he had every

opportunity of being perfectly acquainted, and in stating which he could not have any interest to deceive us, but might, on the contrary, subject himself to much injury, by the public declaration;—it must be allowed, that it is in the highest degree improbable, that his statement should be false. To express this improbability, in the strongest possible manner, let us admit that the falsehood of his statement, in such circumstances, would be an absolute miracle, and therefore, according to the definition that is given of a miracle, would be a violation of a law of Nature. It would be a miracle, then, if, in opposition to his former veracity and to his own interest in the case supposed, he should wish to deceive us; but, if it be a miracle, also, which he asserts to have taken place, we must equally, whether we credit or do not credit his report, believe that a law of Nature has been violated, by the sequence of an unaccustomed effect after an accustomed cause; and if we must believe such a change as constitutes an absolute violation of some law of Nature, in either case, it is impossible to discover, in the previous equal uniformity of Nature, in both cases,—without the belief of which regular order of sequence we cannot form the notion of physical probabilities at all,—any ground of preference of one of these violations to the other.

Though we were to admit, then, to testimony in general all the force, for which Dr. Campbell and other writers have so laboriously, and, as I conceive, in relation to the present argument, so vainly contended,—and though we were to imagine every possible circumstance

favourable to the veracity of the reporter to be combined, —the utmost that can be implied in the admission is, that it would be a violation of a law of nature, if the testimony were false; but if it would not be more so, than the alleged violation of a law of nature, concerning which the testimony is offered, and if, beyond the uniformity of antecedence and consequence in the events of the universe, we cannot form a notion of any power whatever, a suspension of judgment, and not positive belief, in a case, in which, before we can believe either of the violations, we must have abandoned the very principle on which our whole system of physical belief is founded, is all which the propounder of a miracle, in this view of it, can be supposed reasonably to demand.

It would be vain, in such a case of supposed opposite miracles, to endeavour to multiply the improbabilities on one side, and thus to obtain a preference, by counting the number of separate witnesses, all wise, all possessing the means of accurate information, all honourable men, and all perfectly disinterested, or having personal motives, that, if they were less honourable, would lead them rather to refrain from giving evidence; since the only effect of this combination of evidence would be to add to the probability of the statement, which, if once we have admitted the falsehood of it to be miraculous, is already as great as it is possible to be. It is a miracle, that one witness, who has had perfect opportunities of accurate observation, and every motive of personal interest to give a true representation of an event, should yet, in opposition to his own

interest, prefer to give a false account of it. That a hundred, or a thousand, or a hundred thousand witnesses, should, in the same circumstances, concur in the same false account, would be a miracle indeed, but it would only be a miracle still. Of probability there are many degrees, from that which is merely possible to that which is almost certain; but the miraculous does not admit of gradation. Nobody thinks, that the conversion of water into wine at the marriage-feast in Galilee, would have been a greater miracle, if the quantity of transmuted water had been doubled; and a commentator would surely render himself a little ridiculous, who, in descanting on the passage of the Israelites through the Red Sea, should speak of the myriads of liquid particles of the mass that were prevented from following their usual course, as rendering more miraculous the passage itself, than if the number of drops had been less by a few scores or hundreds. But, if this numerical calculation would be absurd in the one case, when applied to a number of particles of matter, each of which, individually, may be considered as exhibiting the influence of a miraculous interposition of a Power surpassing the ordinary powers of nature, it is surely not less absurd, when applied to a number of minds, in each of which, in like manner, a violation of an accustomed law of nature is supposed. It is a miracle, that one drop of water should become wine: it is a miracle, that a thousand drops of water should be so changed. It is a miracle, that a single witness, with many motives to declare the truth, and not one motive to

utter a falsehood, should yet, with great peril to himself, prefer to be an impostor: it is a miracle, that a thousand witnesses, with the same motives, should concur, at the same risk, in the same strange preference. In miracles, there are truly, as I have said, no degrees. The Deity either must act or not act,—or, according to the false definition which I am opposing, a law of Nature must either be violated or not violated. There may be less than a miracle; but there cannot be more than a miracle.

As long as a miracle is defined to be a violation of the law of Nature, it is not wonderful that it should shock our strongest principles of belief; since it must require from us the abandonment, for the time, of the only principle by which we have been led to the belief of any power whatever, either in God himself, or in the things which he has created:—while, at the same time, it is defined to be that which must, by the very terms of the definition, be as improbable as false testimony can be in any circumstances. It may be less, but it cannot be more, worthy of the name of a miracle, that we should be deceived by the testimony of the best and wisest of mankind, as to a fact of which they had means of the most accurate knowledge, than that any other event should have happened, which is admitted by the reporters of it to be a violation of the order of Nature, as complete as the falsehood of the testimony which reports it to us, in these or in any circumstances, itself could be.

With Mr. Hume's view of the nature of a miracle, then,—if we rashly give our assent to his definition,—it

seems to me not very easy to get the better of his sceptical argument. The very assertion of a violation of a law of Nature is, as we have seen, the assertion of something that is inconsistent with every principle of our physical faith: and, after giving all the weight which it is possible to give to the evidence of concurring witnesses, with the best means of knowledge, and no motives of interest that could lead them to wish to deceive, we may perhaps succeed in bringing one miracle against another,—the miracle of their falsehood against the physical miracle reported by them,—but we cannot do more than this: we cannot render it less a violation of a law of Nature,—and less inconsistent, therefore, with the principle, which, both speculatively and practically, has guided us in all our views of the sequences of events,—that the reported miracle should have happened, than that the sage, and amiable, and disinterested reporters, should, knowingly and intentionally, have laboured to deceive us.

The definition, however, which asserts this apparent inconsistency with our experience, is not a just one. A miracle is *not* a violation of any law of Nature. It involves, therefore, primarily, no contradiction, nor physical absurdity. It has nothing in it which is inconsistent with our belief of the most undeviating uniformity of Nature; for it is not the sequence of a different event when the preceding circumstances have been the same; it is an effect that is new to our observation, because it is the result of new and peculiar circumstances. The antecedent has been, by supposition, different; and it is

not wonderful, therefore, that the consequent also should be different.

While every miracle is to be considered as the result of an extraordinary antecedent,—since it flows directly from a higher Power than is accustomed to operate in the common trains of events which come beneath our view,—the sequence which it displays may be regarded, indeed, as out of the common course of Nature, but not as contrary to that course; any more than any other new result of new combinations of physical circumstances can be said to be contrary to the course of events, to which, from the absolute novelty of the circumstances, it has truly no relation whatever, either of agreement or disagreement. If we suppose any one who is absolutely unacquainted with electrical apparatus and the strange phenomenon which that apparatus can be made to evolve, to put his hand accidentally near a charged conductor, so as to receive from it a slight shock, though his sensation may be different from any to which he had been accustomed, we do not believe that he will on that account consider it as a proof of a violation of a law of Nature, but only as the effect of something which was unknown to him before, and which he will conceive therefore to be of rare occurrence. In a miracle, in like manner, nothing more is to be supposed. It is the Divine Will, that, preceding it immediately, is the cause of the extraordinary effect which we term miraculous; and, whatever may be the new consequent of the new antecedent, the course of nature is as little violated by it as it was

violated by the electrician who for the first time drew lightning from the clouds, or by the aëronaut who first ascended to a region of the air of more ethereal purity than that which allows the gross substance of a cloud to float in it.

The Highest of all Powers, of whose mighty agency the universe which sprung from it affords evidence so magnificent, has surely not ceased to be one of the Powers of Nature, because every other power is exercised only in delegated and feeble subordination to his Omnipotence. He is the greatest of all the Powers of nature; but he is still one of the powers of nature, as much as any other power, whose hourly or momentary operation is most familiar to us:—and it must be a very false philosophy, indeed, which would exclude his Omnipotent Will from the number of powers, or assert any extraordinary appearances, that may have flowed from his agency, to be violations of an order, in which the ordinary sequences were different before, because the ordinary antecedents in all former time were different. There may be, or there may not be, reason,—for this is a different question,—to believe, that the Deity has, for any particular purpose, condescended to reveal himself as the direct producer of phenomena that are out of the usual course of nature; but, since we are wholly unacquainted with any limits to his power, and cannot form any notion, therefore, of events, as more or less fitted to be the physical consequents of his will to produce them, it would evidently be absurd for us to speak of any phenomenon that is said

to be consequent on his will, as a violation of the natural order of the phenomena that might be expected to flow from an energy, of the transcendent extent of whose operation we are ignorant, and know only, that it is worthy of a reverent and grateful admiration, far surpassing what our hearts, in the feebleness of their worship, are capable of offering to it.

The shock of an earthquake, and the descent of stones from the sky, are not regarded as violations of any law of Nature, though they are phenomena of very rare occurrence, which require a peculiar combination of the circumstances that physically precede them. What these circumstances are, the witnesses of the resulting phenomena may be wholly unable to state; but as they have been witnesses of the great results, they know at least, that the necessary combination, whatever it may have been, must previously have taken place. By the asserters of a miracle, the same necessity is always supposed. They do not contend, that, when the extraordinary event, which they term miraculous, happened, the previous circumstances were the same as at other times, when no such event was consequent; any more than a meteorologist contends, that, when stones fall from the air, the previous circumstances, however much their difference may have been beyond his power of observation, were absolutely the same as in the fall of rain or snow, or in any other phenomenon of the atmosphere that is more familiar to us. On the contrary, they contend, that the difference of the effect,—as proved by the evidence of

their senses, or of indubitable testimony, in the same way as the truth of any other rare phenomenon is established, —implies an extraordinary cause; and since all the circumstances of which the mere senses could judge, previously to the miracle, were the same as had frequently existed before, without any such marvellous result, they suppose the difference to have been in something which was beyond the sphere of the perceptive organs, and have recourse to the Divine Volition, as a power of which the Universe itself marks the existence, and which, in all the circumstances of the case, it seems most reasonable to consider as the antecedent of the extraordinary effect.

That a quantity of gunpowder, apparently as inert as the dust on which we tread, should suddenly turn into a force of the most destructive kind, all the previous circumstances continuing exactly the same, would be indeed contrary to the course of Nature, but it would not be contrary to it, if the change were preceded by the application of a spark. It would not be more so, if the antecedent were any other existing Power, of equal efficacy; and the physical influence, which we ascribe to a single spark, it would surely not be too much to claim for that Being, to whom we have been led by the most convincing evidence to refer the very existence of the explosive mass itself, and of all the surrounding bodies on which it operates, and who has not a less powerful empire over Nature now, than he had at the very moment at which it arose, and was what he willed it to be.

To that Almighty Power the kindling of a mass of

gunpowder, to which our humble skill is adequate, is not more easy, than any of the wonders which we term miraculous. Whatever he wills to exist flows naturally from that very will. Events of this kind, therefore, if truly taking place, would be only the operation of one of the acknowledged Powers of Nature, producing indeed what no other power might be capable of producing, but what would deserve as much to be considered as the natural consequence of the power from which it flows, as any other phenomenon to be regarded as the natural consequence of its particular antecedent. In the assertion of a miracle, therefore, whatever other reasons of doubt there may or may not be in any particular case, there is no longer the primary physical absurdity of a violation of a law of Nature to be brought against the physical absurdity of another violation of a law of Nature,—or of the asserted agency of a particular Power, as marked by a breach of that very order the uniformity of which is all that constitutes our very notion of Power itself. Every law of Nature continues as it was; for every antecedent has its ordinary effect. We have only physical probabilities to be weighed with physical probabilities, precisely as in any other case, in which any very extraordinary event is related to us; and according as the difference of these is greater or less, our doubt or belief or disbelief is to be the result.

The argument of Mr. Hume, in the only part of his Essay that is of importance in the philosophy of general belief, is an abstract one; and it is not the object of the

present Note to enter into an historical and logical review of the probability or improbability of any particular miracles, but only to consider that abstract argument, in the universal application, which its ingenious Author was inclined to make of it, as sufficient, of itself, to preclude the necessity of examining the evidence of any miracle whatever, even in circumstances, which, if the event related had been of any other kind, would have been regarded as in the highest degree favourable to the veracity of the reporters.

The asserter of a Miracle,—according to the view which I have taken of it, and which it seems to me impossible not to take of it, if the phenomenon to which that name is given be minutely analysed,—is not the asserter of a violation of any law of Nature. What he asserts is the operation of a Power that must be allowed to have existed truly at the moment of the alleged miraculous event, whether we admit, or do not admit that particular operation,—the greatest of all existing Powers, since it is by it alone that every other power of nature is what it is—and of which, as of not less irresistible dominion now, than it was in the moment of the original Creative Will, what we term the Laws of Nature are nothing more than the continued manifestation.

If, indeed, the asserter of a miracle had to combat with an atheist, it will be allowed, that the conditions of the reasoning would be changed, and that it would be impossible for him to obviate the force of the abstract negative argument, till he had previously established the

truth of the first principles of theism;—as little possible, as it would be to prove lightning to be an electrical phenomenon to one who persisted in the denial of such a power as electricity. A miracle is stated to be the result of the operation of one of the Powers of Nature, whose very existence is denied by the atheist; and if the existence of the Power itself be denied, the operation of that Power in any case must also be denied. To the conception of an atheist, therefore, every miracle would be truly a violation of a law of Nature, in the strictest sense of that phrase, and would of course involve all the physical absurdity that is implied in such a violation: the antecedent would seem to him the same, while the consequent was asserted to be different; because in his denial of the existence of any superhuman power is involved the denial of that new antecedent from which the miracle, as itself a new consequent, is supposed physically to flow, like any other physical consequent of any other antecedent.

If, however, the existence of the Deity be admitted, and, with his existence, the possibility of his agency, in circumstances in which it would be more for the advantage of his creatures that he should operate, than that he should abstain from operating,—the possible occurrence of which circumstances can be denied only by those who profess that they are capable of comprehending the infinite relations of events, and thus of ascertaining exactly, in every case, what would be more or less for the happiness of the Universe,—then is the evidence of his asserted

agency to be regarded in the same manner, as the evidence of any other extraordinary event, that is supposed to have resulted from any other new combination of physical circumstances. It is to be met, not with a positive denial, nor with a refusal to examine it, but with a cautious slowness of assent, proportioned to the extraordinariness of the marvellous phenomenon. Strong, and closely bordering on disbelief, as our first feeling of doubt may be, it is still necessary, before we think ourselves authorized to disbelieve, that we should examine what, even though at first it may seem to us little worthy of being credited, may not on that account be positively false; and if, on examination, we find the evidence to be such, that we could not hesitate in admitting it, if it had related to any other species of extraordinary event, the result of any other combination of physical circumstances, so rare as never before to have been recorded by any observer, we surely cannot think ourselves justified in rejecting it altogether, because the physical Power, to whose agency it is supposed to bear witness, is the greatest of all the Powers of Nature.

In this discussion, we are never to forget, what I have already frequently repeated, that a miracle, if it truly take place, far from violating any physical law, is, in the peculiar circumstances in which it takes place, the natural result of the operation of a physical Power, as much as any other rare phenomenon; and we may, therefore, derive some light, in our inquiry, from the consideration of the frame of mind, with which we receive the narrative

of any other physical event, so extraordinary, as to be altogether new to our experience.

When we first heard of the fall of stones from the sky, there was considerable slowness to admit the fact; and this slowness, in such circumstances, it will be allowed, was accordant with the spirit of sound philosophy. But after the concurring reports of many creditable witnesses, have we remained incredulous, because a meteor so very strange may never have come under our own observation; —though for year after year, in every season, and in every seeming variety of heat and light and moisture, we may have been most watchful observers of all the changes of the atmosphere? There is not a philosopher, whatever theory he may have formed of their origin, who is not now convinced, that such bodies have truly fallen on the surface of our earth:—and why is he convinced? It is because the extraordinary fact, which has probably never come under his own observation, has been attested by many witnesses, able to form a judgment of it, and having no motive of interest to give a false report. But the Power that is capable of working miracles is a Power that must be believed to exist, as truly as the power, or combination of powers, in the upper regions of the atmosphere, or above our atmosphere, by which we suppose the aerolite to be produced. The event which we term miraculous, if there truly be such an event, is as natural a result of his operation in particular circumstances, as the aerolite of the rare combination of circumstances in which that peculiar atmospherical phenomenon has its

origin. If the testimony of many sage and disinterested witnesses be capable of proving the one, it is equally capable of proving the other. The extraordinariness of the event, in both cases, should indeed, as I before said, make us peculiarly cautious in examining the evidence on which it is asserted; it affords, in the first statement of the fact, a presumptive improbability; and if this strong primary doubt, which, without amounting to disbelief, might in various circumstances approximate to it, were all for which Mr. HUME's argument had contended, there would have been little reason to dissent from his doctrine. But the extraordinariness, though demanding greater caution, does not, of itself, furnish counter-evidence. Above all, it does not entitle us to say at once, that whatever evidence can be offered on the subject is unworthy of our examination. We have still to examine the evidence of the extraordinary physical facts that are termed miracles, as we have to examine the evidence of any other extraordinary physical facts, that are reported to us under any other name.

He who was able to form the Universe as it is, and to give life to man and every thing which lives, may be presumed, if such be his pleasure, to be capable of giving life to a body, that lies before us in death, inert and insensible indeed at present, but not more inert and insensible, than the mass which was first animated with a living soul. GOD exists, then; his power is ever present with us; and it is capable of performing all which we term miraculous. We may be assured indeed,—for

this the regularity of the apparent sequences of phenomena justifies us in believing,—that he will not himself appear as the direct operator of any wonderful change, unless for some gracious purpose, like that which led him originally to the performance of the first miracle that produced every thing which exists before us. But, as he operated then, he *may* operate again; from a similar gracious purpose we may infer a similar result of benefit to the World; and it certainly would be a most unwarrantable argument, which, on the acknowledged fact of one great miracle of creation, would found a reason for asserting, that no miracle is afterwards to be credited, and, from the many provisions, for existing happiness infer, that He, whose beneficence at one time operated in the production of these, cannot be reasonably expected at any other time, to do what, by supposition, it would be for the happiness of the world that he should do.

It is essential, indeed, for our belief of any miraculous event, that there should be the appearance of some gracious purpose, which the miracle may be supposed to fulfil; since all which we know of the operation of the Divine Power in the Universe, indicates some previous purpose of that kind. In our own nature, and in every thing that exists around us, and that is capable of affecting us in any way, there is proof of the existence of a Divine operator, and of the connexion of a beneficent design with his operation, as much as in any other physical sequence of events, there is proof of a permanent relation of any other antecedent to any other consequent. The

same principle, then, which leads us to expect the light of another day from the rising of the morrow's sun above the horizon, or, in a case more analogous because more extraordinary, the fall of a stone from the sky, if the circumstances should recur which are necessary for the production of that rare meteor, would justify our expectation of the still rarer phenomena which are termed miracles, if we had reason to believe at any time, that circumstances had occurred in which the happiness, that was in the view of the Divine Mind, in the original miracle of creation, would be promoted by a renewal of his mighty agency. It will be acknowledged, indeed, that from our ignorance of the wide relations of events, we are very ill qualified to judge accurately of such circumstances. But though we may be very likely to be mistaken in determining them, it is not the less true, that such circumstances may exist; and that, in that case, the denial of the probability of a miracle would itself be inconsistent with belief of that very principle of uniformity, from which the experience that is said to be opposed to miracles derives its whole force,—the principle according to which we believe, that in all similar circumstances, what has been once, will be again.

If the creation of man was an act that was worthy of the Divinity, it was worthy on account of its object; and if other miracles tend to the same great object, they surely were not excluded by that primary miracle, with the beneficent purpose of which they are in harmony. Is there any reason which can be urged, *à priori*, to show,

that a power which operated once, is therefore never to operate again, and that it would be unworthy of Him who surrounded his creatures with so many means of increasing happiness, and endowed them with faculties of progressive advancement in knowledge, to give them, when a portion of that progress was completed, a revelation of truths of a higher order, by which they might become still more wise and happy? And if it would not be unworthy of Him who loved mankind, to favour them with such views of his moral government of the world, and of the futurity that awaits them, as might have this salutary influence, it could not be unworthy of Him to sanction his revelation, by displays of extraordinary power, that might be sufficient to mark the high Author from whom it came. God exists: that he has deigned to operate, the whole Universe, which is the result of that operation, shews;—and it shews, too, that when he did thus deign to operate, in that greatest of all miracles, which the sagest and most cautious deniers of every other miracle admit, the antecedent volition was a will of good to his creatures, in perfect analogy with that antecedent graciousness of will, of which the asserters of other miracles suppose them to be the consequents.

If, before stating his abstract argument, Mr. Hume had established any one of the following propositions,—that there is no proof of any Power by which the Universe was formed,—or that the Power which formed the Universe, and was the source of all the regularity which we admire in nature, exists no longer,—or that the race

of beings, for whom, still more than for any other of its various races, our Earth appears to have been formed, have now become wholly indifferent to the great Being, who then, by his own immediate agency, provided for them with so much care,—or that it is inconsistent with his wish for the happiness of his creatures, which that early provision for them shows, that he should make to them at any time such a revelation as would greatly increase their happiness,—or that, if we should still suppose him capable of making such a revelation, he could not be expected to sanction it with the authority of such events as those which we term miracles,—then, indeed, when either the Divine Power was excluded from the number of the existing Powers of Nature, or His agency in the particular case was excluded, and when nothing, therefore, was left to be compared but the opposite probabilities or improbabilities of breaches of the familiar sequences of events, the argument on which the Essayist is disposed to found so much, might have been brought forward with irresistible force. But if it be admitted, that a Power exists, who wrought the great miracle of creation with a gracious view to the happiness of man,—that there is no reason to believe this happiness to be less an object of Divine Benevolence than it was originally,—that a revelation, of which the manifest tendency was to increase this happiness, would not be inconsistent with such Benevolence,—and that, if a revelation were deigned to man, a miracle, or series of miracles, might be regarded as a very probable sanction of it:—then, since a miracle

would be only the natural result of an existing physical power, in the peculiar and very rare circumstances in which alone its mighty energy is revealed, the evidence of its operation is to be examined, precisely like the evidence of any other extraordinary event. There is no violation of a law of Nature, but there is a new consequent of a new antecedent. The extraordinary combination of circumstances, of which a miracle is the physical result has now taken place; as, when an earthquake first shook the hills, or a volcano first poured out its flood of fire, after the earth itself had perhaps existed for many ages, there was that combination of circumstances of a different kind, of which earthquakes and volcanoes are the natural results.

A miracle, I repeat, if it truly take place, is as little contrary to any law of Nature, as any other phenomenon. It is only an extraordinary event, the result of extraordinary circumstances;—an effect that indicates a Power of a higher order, than the powers which we are accustomed directly to trace in phenomena more familiar to us, but a Power, whose continued and ever-present existence, it is atheism only that denies. The evidence of a miracle, therefore, being the evidence, not of any violation of a law of Nature, but of a fact that is reducible, like every other fact, to the physical operation of one of the powers of Nature, does not form a class apart, but is to be considered exactly like the evidence of any other extraordinary phenomenon, that depends on circumstances over which we have no controul. It is to be

admitted or rejected, therefore, not simply as being evidence of a miracle, but as evidence which is, or is not, of sufficient weight in itself to establish the reality of the extraordinary phenomenon, in support of which it is adduced. It leaves the mind still free to examine, in every particular case, the likelihood or unlikelihood of the mighty agency which is asserted; but in the freedom of a philosophic mind, which knows that there truly exists a Power capable of doing what is asserted to have been done, it will find only such doubt, as leads to greater caution of inquiry, and not instant disbelief or unexamining rejection.

I have already said, that it is not the object of this Note to enter into an examination of the credibility of any particular set of miracles: it is only to show that the general abstract argument, with which Mr. Hume would render unavailing the most powerful testimony that can be imagined to be offered in support of asserted facts of this kind, has not the overwhelming force which he conceived it to possess. By correcting the false definition which has been generally given of miracles, with an analysis of them which appears to me more philosophic, I would reduce them to the rank of other physical facts, and in this light would claim for them the same examination which we give to the reports of other phenomena that are wholly new to us,—an examination that may be accompanied with the strongest doubt, and may terminate in disbelief, if the evidence be slight and scanty, but which may terminate also in belief, and be accompanied

with doubt progressively fainter and fainter, as the evidence in the course of inquiry appears to be of greater force. This title to be examined, it might, perhaps, be too much to claim for any miracle, if it were asserted to be the actual violation of those laws of Nature, on the belief of the uniformity of which our very examination of its probability must proceed. But it is not too much to claim for it, when it is shown not to involve the inconsistency that is implied in a violation of a law of Nature, but to be only the physical operation of an existing power, as little opposite to the regularity of Nature, in the particular circumstances in which it is said to take place, as any other new phenomena that result from new combinations of physical circumstances. There is not a phenomenon, however familiar now, which had not at one time a beginning: and I may say even, that there is not a phenomenon which was not originally, as flowing from the Creative Will, an event of this very class. Every thing has once been miraculous, if miraculous mean only that which results from the direct operation of a Divine Power; and the most strenuous rejecter of all miracles, therefore, if we trace him to his origin, through the successive generations of mankind, is an exhibiter, in his own person, of indubitable evidence of a miracle.

## Note F. p. 93.

In strict philosophy, all events, which have resulted from the direct operation of the Divine power, and would

not have been but for that operation, are to be ranked as miraculous; whether the events themselves be beyond or within the sphere of our senses, and be or be not of a kind, which, in other circumstances, the ordinary powers of nature are capable of producing. The name of *miracle*, however, is more commonly given to such changes only, as are at once capable of impressing the senses, and obviously of a kind that marks the mighty agency to which they are ascribed; while many other events, supposed to flow from the same agency, but less obvious, and more akin to the ordinary phenomena of Nature, are ascribed to the *Providential* interposition of the Deity, without being, in common language at least, denominated *miraculous*.

The doctrine of a particular Providence, in accordance with the established truths of revelation, belongs to the theologian: but it may be considered, too, as a question of simple philosophy, abstractly from all revelation; and it is only in this light, that the few following remarks are offered, in a Work, which has for its sole object the phenomena of Nature, and the Powers of which these successive phenomena are indications.

That the Deity has providentially accommodated the System of the Universe to the various capacities and necessities of his living creatures, no one who believes in him as a Creator, can be supposed to deny. The belief of this primary and general Providence, therefore, may be considered as co-extensive with theism itself.

That, not content with this gracious provision in the original formation of the Universe, he has afterwards, for ends of the same gracious kind, operated in the production of certain effects, which would not otherwise have taken place,—however doubtful this may seem to others,—must be admitted at least by all who believe in the genuineness of any miracles whatever; since there is no real physical distinction between miracles and any other operations of the Divine Power.

It is abstractly, however, that the question is to be considered by us, and not in relation to the belief or disbelief of any particular system of miracles.

Have we reason, then, from the phenomena of Nature alone, and the views which it gives us of the character of its Divine Author, to believe that he occasionally varies the apparent sequences of events, by adapting them, in particular circumstances, to the wants of particular individuals?

I may remark, in the first place, that the assertion of this particular Providence, whatever may be thought of it in other respects, at least involves no contradiction. It may be true, or it may be false; but there is in it no primary absurdity that precludes the necessity of examining whether it be true or false.

It must be admitted,—an asserter of it may justly say,—that the Deity, with a view to the good of mankind, *has*, at one time, directly operated, since the race of mankind, and all the objects which surround them, have existed only by his creative will;—that there is no reason

to suppose the creatures, for whose happiness he at one time operated, to be objects of less interest to him, at one period, than at any other period;—that, if he love mankind, he loves individuals, since *mankind*, which is only a name for a number of individual living beings, is nothing in itself, but as significant of the individuals whom it comprehends;—that it was not for the letters or syllables, therefore, which form the word *mankind*, but for the living individuals denoted by it, that he provided, by his own direct operation, this beautiful system of things, which has been the home and rejoicing-place of so many generations;—and that, if he truly love the happiness of the individuals of mankind, he may, on the very principle which we must suppose to have led to the original act of creation, be expected to promote that happiness which he loves, if circumstances should occur in which more good would flow from a temporary change of the seeming order of nature, than from a continuance of the same apparent order.

In this progressive reasoning, if the question were to be considered wholly *à priori*, there does not seem to be any inconsistency. The only opposite argument, in such a primary view of it, would be found in the good which must be allowed to flow from continued uniformity of order in the phenomena of nature, as enabling us to calculate on their future sequences, to be the planners of our own conduct, and in the lessons of experience to derive wisdom from the very errors and evils of the past. It is an advantage exactly of the same sort as that which

is to be found in a general system of wise legislative enactments, in conformity with which the whole order of our life may be arranged. If, without any such system of law to direct them, there were only the discretionary decision of judges, the most upright and equally wise as the legislators supposed, there can be no doubt that some decisions would be more equitable, in the particular circumstances of the case, than if they had been necessarily modified by general forms and rules of legal construction; but there can be as little doubt that the advantage in these particular cases would be slight, if compared with the evil that would be felt by the whole community, in the want of a general standard for the direction of their mutual dealings. Such, in its general directing influence, and I may add, also, in the evils that occasionally attend it in particular circumstances, is the good that flows from the uniformity of nature, by which the consequents that are known to us may be expected by us after the antecedents which we know. But still it is this good alone, which, in the balance of opposite advantages, is opposed to the advantage of particular interposition; and if circumstances should occur in which a variation of the ordinary sequence of events would be productive of greater good upon the whole, than if the accustomed sequence were permitted to take place, we certainly should not be justified by our belief of the good of a regular order of events, in rejecting, for that reason alone, the possibility, or even the probability, of a good that was by supposition still greater.

Such, as it appears to me, is the conclusion to which we should naturally be led by reasoning *à priori*, on the likelihood of providential interposition in particular cases; a conclusion certainly not decisive on either side, but exclusive of positive disbelief, at least as much as of positive undoubting belief, and perhaps, in the comparison of probabilities, rather favourable than unfavourable.

But it is not *à priori*, it will be said, that such a question should be decided. It must depend chiefly on an examination of the real successions of phenomena; and it is only when this examination leaves us in doubt, that we can be entitled to avail ourselves of any greater probability on one side, which the primary abstract argument may have afforded.

Unfortunately, however, the successive phenomena are not so clearly known to us, in all their circumstances, as to afford a satisfactory decision of the question. In the mixed series of events in nature, every thing is so complicated with every thing, and the analysis is often so much beyond our power, that in innumerable cases it is impossible for us to predict the particular effect that may be expected, and to determine the particular moment at which it may be expected. We may know, for example, when we look at some tottering wall, that the first great hurricane will throw it down among the ruins which have long been mouldering at its base; but who is there that can venture to predict the very instant, at which it is to be overthrown? And if it should fall the very moment after some wanderer whom it had been sheltering

had quitted it, who is there that can venture to say with confidence, from his knowledge of the laws of gravitation, and of the lateral force of currents of air, that its fall was at the very moment which might have been predicted, and, without any providential interference, could not have taken place, while the wanderer was near enough to be a sufferer? Our experience of the order of events may be sufficient, indeed, to render less probable the Divine interpositions supposed; but it certainly is not sufficient to disprove what might or might not be, while all which we know of the order of Nature had continued exactly the same.

That the supposed agency of the Deity is not made visible to us by extraordinary appearances,—that, for example, we do not see a falling wall suspended in the air in its descent, till some individual have passed safely beneath,—is no proof, that the Divine interposition is falsely supposed. If the interposition were to be equally effective, as to its immediate object, in either way, there can be no doubt that, in conformity with his own benevolent view, the less obvious mode is that which the Deity would prefer; because, while it produced equally the particular good intended, it would not seem to violate the general uniformity of nature, and would thus leave all the advantage of that general uniformity, in relation to which every plan of conduct might be arranged, in the same way as if the providential interposition itself had not taken place.

With this view, therefore, ignorant as we are of the

many bearings of events upon each other, it appears to me, that we are not entitled, in sound philosophy, to affirm of any sequence, in which the antecedent and consequent are not exactly known to us in their fixed mutual relation, that the Deity has *not* operated in this particular case. It may be much more likely, indeed, that the sequence is in conformity with the ordinary course of events: but the absolute denial of providential agency, as concerned in it, is not allowable; because such a denial would imply, that we are capable of knowing all the circumstances, of which many are confessed to be beyond our power of observation.

But if it be too much to say, in any particular case, that Providence has *not* interposed, it appears to me equally, or, rather, far more unphilosophic, to pronounce positively, in any particular case, that there *has* been such interposition.

There is indeed a complication of events in nature, which renders it impossible, in many cases, to predict the result of their mingled influence. But, the more attentively we observe the sequences, and the more minutely we analyse them, the more exact do we find the uniformity of the particular consequent which we trace after the particular antecedent which we have traced; and the stronger, therefore, does the presumption become, that, if we were able to analyse with still more discriminating accuracy all the complex appearances of things, we should discover a similar uniformity in the varieties that are at present most perplexing to us. The effect of

the progress of science, in the increasing accuracy of the analyses which it affords, is to lessen more and more the seeming confusion of so many co-existing and opposite influences, and to mark each effect more precisely as the physical consequent of its particular antecedent; though it must be confessed, that, with all the accuracy which we have yet attained in our discrimination of mixed causes, sufficient obscurity is still left to be consistent with many interpositions of Providence, unknown at the time even to the individual who may have profited by them.

When a house falls down a few moments after an individual has quitted it, or a wave brings within the reach of a shipwrecked mariner, who has almost ceased to hope, and is resigning himself, after a long and weary struggle, to the death that seems awaiting him, a plank, or other floating body sufficient to bear him up,—it is impossible to trace all the series of physical causes which retarded, till that particular moment, the fall of the house, or brought the instrument of succour, at the very moment of feebleness and despair, within the reach of that arm which had strength only to grasp it. It is impossible, therefore, to say positively that the effects were not the result of providential aid; and it is a very pleasing influence of gratitude to Heaven, that, after escape from peril so imminent, leads, in the vividness of joy, to this very supposition, as a reason for still increasing gratitude. But, delightful and amiable as the feeling is, it may still, in the particular case, be a fallacious one. To a common

observer, less interested in the escape, and therefore, from the absence of lively emotion, better fitted to reason calmly on probabilities and possibilities, it may appear, that the house fell at that particular moment by the ordinary influence of gravitation, and, while all the ordinary physical circumstances were the same, could not have fallen a single moment sooner or later; and that the wave would have borne the same floating body to the same place in the ocean, though no human being had been near to derive benefit from it. He, therefore, who affirms positively in any case, that an event, which is not beyond the ordinary operation of the common powers of nature, was not so produced, but was the result of Divine agency, must, in this very affirmation, take for granted, that he is acquainted with all the tendencies of things at the time of which he speaks, since he is able to pronounce on their inadequacy, and that, with this perfect knowledge of every latent circumstance, as insufficient to produce the phenomenon, he is far wiser than the wisest observer that ever looked on Nature with the most inquisitive and discriminating eyes.

Of those persons, who, perhaps from a mistaken feeling of devotion, are in the habit of ascribing to a particular interposition of Providence every event that is attended with advantage to any individual, it seems reasonable to ask, What they conceive the tendencies of Nature, in the ordinary sequences of events, to be? If, but for the interposition which they suppose, no event whatever, in the ordinary course of things, would be of

service to mankind;—if the physical laws of the Universe have been so arranged, as to be productive only of injury to the human race and to every living creature; if a wall, however loose on its foundation, were still under some strange physical restraint, to "reserve its unlucky fall," till the very moment at which some hapless traveller was passing beneath it; and, of all possible combinations of things, none could ever take place that might seem to happen opportunely for the advantage of any one, but all for the disadvantage of some wretch or other,—what a view does this picture present to us of the works of God, and how unworthy does such a strange system appear of the Gracious Being, who has formed us with so many capacities of enjoyment, and who, in fixing the relative degrees of the qualities of external things, has ministered with so exquisite an adaptation of them to the relative sensibility which they were to affect. In our praise of his particular bounty, in some momentary interposition supposed, we must not detract from the still greater glory of his general benevolence, by representing him as the Author of a World of such evil, that every happy event which takes place in it is to be ascribed to his own endeavour to counteract a tendency, that of itself would be uniformly injurious to mankind.

The gratitude which, in acknowledgment of blessings received, looks to Heaven as the source from which they have directly flowed, is a feeling that at once may increase devotion, and increase the very happiness which leads to the grateful acknowledgment. But there are

many minds, perhaps the greater number, in which the constant habit of ascribing every little beneficial event to some interposition of the Divine power in their particular favour, tends to cherish a sort of isolating selfishness, which, in its own peculiar relation to events that are supposed to be out of the common course of things, almost loses the comprehensive and far more important relation of Nature to the whole human race. In the wide and ceaseless variety of good, that flows from the general laws of the universe, the Author of those laws appears as the benevolent provider for all; in particular interpositions, though it may be truly the same universal benevolence which prompts them, he appears as more especially provident for some favoured individual: and though it is the former of these characters which is particularly Divine and worthy of the most affectionate adoration, from those who delight in viewing themselves as parts of a great community, and who consider the good, therefore, which many partake with them as greater than the good which they enjoy alone; it is the latter of these characters that may be supposed to impress itself most strongly on an ordinary mind, that values what it has itself exclusively received, as far more precious, than a good which has flowed lavishly to all. When we think of the local and national Divinity of the Jews, and of the character in which, under a different dispensation, he is believed to have revealed himself as the God of all mankind, we surely cannot hesitate long in determining on which of these characters we should

be more inclined to dwell, if we wished to elevate our mind to the noblest conceptions of the Divine nature; and the same difference of impression must be in some degree produced by the habit of considering the Supreme Ruler of the World rather as a personal and particular Providence, than as the Providence which, in the beautiful arrangement of this system of things, has made all Nature a ministration of general bounty. It is of this general bounty, therefore, that even he who believes most undoubtingly in the particular interpositions of Heaven should accustom himself most frequently to think. We cannot say positively of any event, however opportune it may seem in relation to the benefit which flows from it, that it is the result of providential agency; we cannot pronounce with absolute certainty, that it has not been so produced. If, however, we incline to the former of these opinions, and believe that what has happened advantageously for us at any time, has not happened in the ordinary course of events, but by the direct volition of Him who rules the world,—let us bless him indeed for this act of his bounty; but while we are devoutly thankful for the personal good, let us bless him still more for those general arrangements, from which the production of that personal good, in harmony with the great end which they serve, was only a momentary deviation,—arrangements, that have made the happiness of the world, and, in the equal and uniform order of which he may be considered as exercising, at every moment, some act of providential

bounty, not to a single individual only, but to thousands of our race, and perhaps to myriads of myriads of rejoicing creatures.

## Note G. p. 95.

If external objects be absolutely incapable of affecting us in any way, and if, therefore, when we seem to be affected by them, it is only by the operation of the Deity, who on occasion of their presence, induces in us the sensations which we refer to things without as their causes; the existence of matter, I have said, must be evidently useless, except as a remembrancer to the Deity, in what particular way, and at what particular moment, he is thus to affect us. I might, without any great subtlety, on the general principles of the theory, have carried the denial of the use of matter still farther: for, if it have *no direct agency*, how is it to act, even as a remembrancer? If it be so wholly destitute of power, as to be incapable of producing any change like sensation or perception in our minds, why are we to suppose it capable of producing feelings of this sort in a far mightier spirit? If it be not perceived at all, it is, with respect to every other being, as if it did not exist: and if it can occasion, in any mind, a feeling that otherwise would not have arisen, so as to be to it a remembrancer, it cannot have that powerlessness relatively to mind, which is ascribed

to it: and may, therefore, on the same principle, be the immediate cause of sensation in us, without the intervening agency of any other being.

## Note H. p. 99.

The belief, that every thing which begins to exist must have had a cause of its existence, which has been always considered as a separate and peculiar axiom, is only another form of the more general axiom in which all our notions of causation are involved. We believe every change to be the invariable result of circumstances immediately prior; and this belief comprehends as much the great event of beginning existence, as the subsequent revolutions of existing things: for, when we strive to think of the world, as beginning to exist, we, in this very conception, obscure as it is, must have some notion also of that prior time, when the universe of which we think had no existence; and we have hence the feeling of a change. By a primary law of our nature, it is impossible for us not to consider this change as invariably conjoined with some preceding circumstance. But with that prior *nothing*, which seems to offer itself to our imagination, we know that the sudden existence cannot be thus connected; because, if such a connexion, which it seems almost absurd to suppose, were possible, there could not be any void in the universe, or in space itself,—the very infinity of which must, on that supposition, have become immediately one infinite and

immovable mass. The beginning of existence is a phenomenon, different from those phenomena which we at present witness; and the cause of it, therefore, if similar antecedents have for their attendants similar consequents, must have been, in like manner, something different from the phenomena that come immediately under our view. It must have been something, however, which was adequate to the production of existing things; and, from the manifest appearances of order and design in the universe, which, though infinitely greater, are still analogous to our own, we infer that the creating cause, productive of so much order, was the will of an intelligent mind. In this reasoning, no circumstance of axiomatic faith is implied, which is not common to all our reasonings, on the more frequent and obvious phenomena of causation: and we may therefore conclude, that the proposition, *Every thing which begins to exist must have had a cause of its existence*, is not itself an independent axiom, but is reducible to this more general law of thought, *Every change has had a cause of its existence, in some circumstance, or combination of circumstances, immediately prior.* We believe that it must have had a cause, from that necessity in our own nature, by which it is impossible for us, to conceive it without one. We cannot consider any change of appearance, without regarding it as the sequence of something prior; and it surely is not wonderful, therefore, that we cannot conceive, without something prior, that greatest of all changes, which consists in the beginning existence

of a world, where there was before only the Spirit that existed from eternity.

## Note I. p. 203.

It must always be remembered, that the question does not relate to the truth of the inertia, as a fact which we believe, but to our supposed power of predicting this fact, independently of experience.

I repeat the caution, with the view of obviating the force of any objection that may be made, from misconception of the real object of doubt and inquiry. The questions themselves are certainly very different,—whether the inertia be a property of matter,—and whether, before experience, we could have inferred it with perfect certainty, by any process of reasoning. The one question relates entirely to what takes place without us; the other to what takes place within us. It is not the *fact*, or the physical property of inertia which I consider as reducible to a particular law of thought,—for that would be indeed to confound phenomena,—but our *belief* of the fact; a belief that differs as essentially from the inertia itself, as any other phenomenon of mind differs from any other phenomenon of matter. The *property* of the corporeal mass, and all the *facts* which result from it, may be, or rather truly are, independent of our notions with respect to them. *They* are independent of our mind, but not so our *belief* itself, which is a phenomenon purely mental, and which, on the same

principle of analogy that guides us in our arrangements of every kind, I consider as reducible to the same class, with our belief of the uniformity of every other physical sequence.

Even as a mere fact, the inertia is not more truly independent of our belief of it, than any other fact in physics, which is confessed to be beyond our power of anticipation *à priori*. The solubility of a salt in water, the approach of a loadstone to a piece of iron, the deflagration of gunpowder, are sequences of events, which, in the same circumstances, we suppose, would continually take place, though no human observer were present; but we do not, on that account, believe, that we could have predicted them, independently of experience, and as little therefore does the same argument prove that independently of experience, we could have predicted the inertia of the very masses, of which we are unable to predict the solubility, the inflammability, the magnetism.

## Note K. p. 213.

" Si enim corpus motum celeritatem non conservaret semper eandem, tum vel augeri deberet vel diminui ejus celeritas. Hoc autem casu ad quietem inclinaret, quod quia nunquam quietem consequi potest (62.) accidere nequit. Illo casu vero ex quiete provenisse censendum esset, quod æque foret absurdum. Præterea si hoc corpus in spatio infinito et vacuo positum concipiatur,

ejusque via, qua est ingressum et ingredietur, consideretur; nulla est ratio, quare potius in hoc majorem minoremve habeat celeritatem, quam in illo loco, quocirca perpetuo eadem moveri debebit celeritate. Q. E. D."

Mechanica, Cap. Prim. *De Motu in genere*, Prop. 8.

The reference (62.) is to a corollary of the theorem immediately preceding, which affirms the inertia of bodies at rest, and endeavours to demonstrate it on the principle of the Sufficient Reason.

The corollary itself, however, can be understood, only when taken together with the two preceding corollaries with which it is progressively connected. It is necessary therefore to quote them in their order.

" Corollarium 3.

Simili modo, quo evicimus corpus semel quiescens perpetuo quiescere debere, nisi a causa externa afficiatur, potest ostendi, corpus, quod nunc quiescit absolute, antehac semper quoque quievisse, siquidem sibi ipsi fuerit relictum. Uti enim nulla est ratio, quare potius ex hac, quam illa plaga, in eum, quo nunc stat, locum pervenerit, ita concludendum est etiam in eo loco antea semper constitisse.

Corollarium 4.

Corpus igitur, quod semel quiescit, si ulla causa externa in id neque agat, neque egerit, id non solum in

posterum quiescet semper, sed etiam ante perpetuo quievisse statuendum est.

Corollarium 5.

Sequitur ex hoc, corpus semel absolute motum in quietem pervenire nunquam posse sibi relictum. Nam si tandem quiesceret, idem oporteret antea quoque semper quievisse, quod est contra hypothesin."

In this way, in many Works, of great mathematical excellence, but defective in the spirit of general philosophical analysis, we often find that, by the progressive assumption, in corollary after corollary, of some little circumstance unincluded in the demonstration of the primary theorem, the evidence of the primary theorem itself is ultimately extended to conclusions that have perhaps only a very faint analogy to the truth which was demonstrated, and that are not less in need of proof after the demonstration in which they are said to be virtually included, than they were before it.

## Note L. p. 243.

The tendency to pass rapidly from a general observation to a conclusion more general still, is the result, in part, of various other propensities of the mind, the influence of which, in this, as in other respects, I may perhaps have an opportunity of developing in future Works. But, though it is an error to which many causes contribute, it is in an especial manner, as I

conceive, the result of misconception of that relation of efficiency, which is the subject of the present volume.

If I have succeeded in rendering sufficiently intelligible to my readers what appears to me to be the real import of that relation, they will not be in danger of regarding Power as any thing distinguishable from the physical object itself, to which, in consequence of the unavoidable paraphrastic forms of language, we refer it, as if it were something separable, and rather inherent in the substance, than constituent of it as an object of our thought. In all the changes which Nature is unceasingly exhibiting to us, there are not substances and also powers, but substances only,—which, in certain situations, admit of the changes, that are denominated by us *phenomena*, and admit of these in a manner so uniform, that we conceive ourselves justified in classing them as at all times antecedent and consequent in regular order. As often, therefore, as the substances are the same, and their relative situations the same, we anticipate a corresponding sameness of result. But, when the substances, though similar in many respects, are different in some slight variety of elementary composition, or when they are the same as separate masses, but have their relative situation in any respect varied, since in these new circumstances we have no longer the same antecedent, we can no longer anticipate with perfect confidence the same result, but have only a presumptive expectation, that is stronger or weaker, as the circumstances of analogy are more or less exactly

correspondent. It is a presumption, indicative rather of what we ought to endeavour to ascertain by observation or experiment, than of what we ought to take for granted as certain: and, till the decisive confirmation of experience be given, we should be aware, that it is a presumption only;—that the slightest difference of elementary composition, or of the relative bearings of substances on each other, may be sufficient to render the effect altogether different; and that we can be unerring prophets, therefore, only when the substances of which we speak are the same as were before observed by us, and the situations in which they are supposed to recur are also the same. It is truly not more wonderful, that, in different relative situations, the same substances should exhibit different phenomena, than that substances which are themselves different should exhibit phenomena that are different: for it is experience only which enables us to anticipate either a sameness or difference of result in any case; and the same experience which shows us that different substances exhibit different phenomena, shows us also, that often, by a change of mere relative situation, the same diversifying effect is produced, as by a change of the substances themselves.

When power or efficiency, then, in all the sequences of phenomena, is believed to be nothing different from the physical antecedents and consequents themselves, an inquirer, habituated to this just view of the philosophy of Cause and Effect, may be expected more readily to confine himself to his legitimate object, and to make the

limits of his observation the limits also of the general physical truths which he asserts. But there is not the same reason to expect this caution, where it is supposed, that, beside the *antecedents* and *consequents* themselves, there is something to be distinguished from them by the name of *power*, that exists as truly as those substances exist, and is permanent as they are permanent. When A and B, as antecedents, existing together in certain circumstances, have for their consequent C, there is no difficulty in believing, that, in other circumstances, they may be followed, not by C, but by X; because the power in A and B of producing C is only a name for A and B themselves, *in the particular circumstances* in which C is consequent, and is nothing, when these particular circumstances have ceased. But, if the power were supposed to be something different from A and B, residing in them or inherent in them in any way, some difficulty might very naturally be supposed to be felt, in conceiving what is become of this power, when there is either no effect produced, or an effect altogether different. In the new circumstances, for example, in which A and B produce X, an inquirer, who believes power to be different from the antecedents themselves, must be a little puzzled in conjecturing what is become of the power that was inherent in them of producing C, and when they produce C, in striving in like manner to conceive what is become of the power of producing X. In short, when power is supposed to be itself something real and different from the physical antecedent, but

inherent in it, it is not wonderful that it should be believed to be wherever the substance is in which it is supposed to be inherent, and that hence, since it is present in all circumstances, and its very essence is to be effective, what is physically true of a substance, in certain circumstances observed, should be considered as equally true of it in all circumstances.

Such, in its tendency to carry beyond the limited circumstances of past observation the belief of the power which the objects around us in those limited circumstances have developed, is one of the unfortunate influences of that distinction of Efficient and Physical Causes, in which philosophers have so universally, and yet, as I conceive, with so very little reason, acquiesced. Though it seems abundantly evident, on reflection, that there cannot be any thing more in nature than the substances which exist in nature, and that the powers, properties, qualities, of substances, by whatever variety of phrase denoted, must either be those substances themselves or nothing, even the very simple analysis, which this slight reflection implies, has not been made; and the mere relation of antecedence and consequence, to which, in our belief of its invariableness, we give the name of Efficiency, has been itself regarded as a sort of entity, distinct from the gross physical substance in which it is supposed to be mysteriously embodied. With this view, then, of the distinct entity of power, since it is not easy to imagine it to be annihilated and created again from moment to moment, or to be less operative in circum-

stances unobserved, than in circumstances observed, the error to which I have alluded seems scarcely avoidable. If the great orbs of the planets tend toward the sun and toward each other, because there is *in them* a power of gravitation, which is something more than the masses themselves, this *gravitating power*, if it be not absolutely annihilated, must be conceived to be wherever the masses are: and if, therefore, after a wide induction, we were to assert, that matter is *in all circumstances* reciprocally attracted and attractive, we should conceive ourselves justified in this universal proposition, by the universality of the gravitating power that is supposed to be inherent in the masses and their elements. Yet, in this very proposition,—as the phenomena of compressibility, elasticity, and all the other phenomena indicative of repulsion show,—we should assert what is absolutely false; since the particles of matter, in certain circumstances, tend from each other, as truly as in certain other circumstances they have a tendency toward each other.

All the causes in Nature, whether spiritual or material, as I have shown in an earlier part of this volume, are physical Causes,—the antecedents of the consequents of which we speak under the name of Effects as often as we wish to express not the mere sequence as a single fact, but our belief of the uniformity of that constant order of sequence; and the causes which we term Efficient are either the very causes previously termed by us Physical, or they are other physical substances more proximately antecedent. A cause must be a substance, and a sub-

stance antecedent in particular circumstances to the change of which we speak. Whatever redundant phrases we may think ourselves authorised by the accredited tautology of philosophers to employ, there is no principle of causation *in* a cause, more than there is a principle of being an effect *in* an effect, a massiness *in* a mass, or an elementariness *in* an atom. These are only abstract words, expressive of the mere existence of causes, effects, masses, atoms,—not of any thing different from causes, effects, masses, atoms. There are substances, which, in certain circumstances, exhibit certain changes, or are antecedents of certain changes in other substances; and we give them the names of Effects and Causes, for this very reason alone, that such changes are uniformly consequent, in the circumstances in which we give those names.

That the belief of Efficiency, as something distinct in itself, which, unless we suppose it to be absolutely annihilated, must be considered as still subsisting in the objects around us in the situations in which we have not had an opportunity of observing them, should lead us to extend the application of a general physical truth, from circumstances which we know, to circumstances which we do not know, seems then a very natural effect of this primary error: and the injurious tendency of this error, so universal in its extent, both as to the minds on which it operates, and the objects to which it relates, appears to me to have been aggravated by a circumstance, which the inconsiderate worshippers of great names, and even

many of the wisest of the admirers of the wise, who judge before they offer their sager homage, would regard as little likely to favour any false views of the nature and objects of physical investigation.

This circumstance is the undistinguishing veneration, with which philosophers have continued to receive the whole physical logic of the *Novum Organum*, as if its principles were in every respect the justest that could be laid down, in conformity with the nature of the human understanding, and the nature of the Universe, a veneration that cannot be too great, when we think only of the mighty intellect, which, in an age when *logic* had so little affinity to reason as to be unworthy in every respect of its noble etymology, was capable of conceiving and accomplishing such a plan of legislation, for all who were afterwards to dare to meditate on any one of the glorious things of Nature in that world of marvels and glories in which we are placed;—but that may yet be more than is due, when we think, not of the Lawgiver, but of the System itself, which he bequeathed as a perpetual code for the direction of inquirers in every age. If the personal merit of the individual were alone to be considered, veneration would scarcely be a word sufficiently strong for expressing that mixed sentiment of wonder, and reverence, and gratitude, which the very name of Lord Bacon must excite in every mind that is capable of appreciating a genius, as rich in the variety of its excellence, as it was transcendent in each separate endowment.

It must be admitted, however, that the time at which his admirable Works were given to the World, though not the best for rendering them faultless, was singularly fortunate for their reputation. A great revolution in science was already preparing, and in one of the noblest departments of it, which regards the philosophy of the heavenly bodies, had already begun, with a splendid success, which could scarcely fail to spread its light downward, to the inquirers whose search was limited to the surface of our globe. The habitual deference of the mind to ancient authority had been shaken, not lightly, nor in opinions of faint and partial interest, but, with almost convulsive force, in feelings which were the liveliest of every mind, and which, from their wide relation to truths and errors of every sort, had consecrated in some degree almost all the prejudices, which for many centuries had been retarding inquiry. New worlds had been opened to adventure: commerce was extending itself; and wealth and freedom, and the desire of ampler information which wealth and freedom produce, were spreading with it. Above all, the Art of Printing, which afforded means of ready and accurate communication of discoveries from kingdom to kingdom, was presenting not merely accessions of knowledge, but in the facility of the communication itself, a new object to the ambition of men of science. The wider glory, which every observation and experiment, that afforded a striking result, could not fail to obtain from the multitude to whom the knowledge of the discovery, by the

medium of this happiest of arts, became easily accessible, tended necessarily of itself to quicken the zeal of observers and experimenters; but it operated, perhaps, as powerfully and as beneficially for science, in the way which I have now mentioned, by changing one modification of ambition itself for another. It truly gave the passion, as I have said, a new object. When inquirers were thinly scattered over the wide surface of Europe, with little intercourse of distant mind with mind, it was a very natural effect of this state, that the fortunate discoverer of some property of a substance unsuspected before, should choose often to wrap himself up in mysterious self-importance, as the possessor of a marvellous secret, which he was only to hint occasionally, and not reveal; rather than, for the sake of a very scanty celebrity, which he could have little opportunity of knowing and enjoying, to run the risk of communicating his whole treasure, which might be plundered from him, without any power on his part of reclaiming it as his own. All then was favourable to a sort of enigmatical obscurity; and all was enigmatical obscurity. But, when the Art of Printing fixed the date and the property of every discovery, and at once spread glory wider, and brought it back more fully to him who had deserved it, it was equally natural, that mystery should vanish, before the love of that which was felt to be of far greater value,—that there should hence be a closer and more frequent, and more extensive concert of inquirer with inquirer,—that new

observations and experiments, therefore, should be made,—that, with the new accessions which were thus obtained to science, the value of observation and experiment should be more and more felt,—and that even though BACON had not existed, the very societies that considered themselves as followers only of the plans which he had pointed out, but that were truly following still more the impulse of the age which was principally the result of other causes, might have been instituted with the same views, and borne as close a resemblance to "Solomon's House," as when "the new Atlantis" had been diligently studied by every member of the Association.

How far this would, or would not, have been the case, it is impossible for us now to say with confidence. But this, at least, we may say, to the glory of the Great Master; that, powerful as the circumstances might be, which were only beginning to urge forward more sluggish minds, his mind was still in advance of them. The waters, indeed, were rising; and the swell, which was covering the waste of sands behind, was producing also new currents in the deeper flood. But he was not among the common rowers, whose skiffs or galleys the current was carrying onward; he appeared in their front, like some skilful and commanding pilot, who, though the swell was new, was yet so well acquainted with the channel, and with the banks and rocks, that he could measure them with the increasing depth of the stream, and determine where it would now be safe to venture, and where the shoals might still be dangerous;

and could foresee and predict the very points of the course at which new backward eddies might be expected, from the resistance which higher points of land than the stream had ever reached before, might give to its onward waters.

It was not the less, however, as I have said, in circumstances the most favourable for his reputation, that Bacon communicated to the world his enlightened views of science, and of the mode in which it might be cultivated with surest prospect of success. The results of observation and experiment, as they are the best confuters of ancient error, are also the best demonstrators of the value of observation and experiment; and there can be no doubt, that, in the circumstances of Europe, at that period, these results must have been multiplied very rapidly, and have afforded, accordingly, from year to year, still clearer and clearer demonstrations of the absurdity of every system that was not founded on them, and therefore of their own primary and essential importance, for the improvement of philosophy. At this auspicious time, when the dawn was already more than twilight, and when day was soon to spread itself over the sky, the Works of Bacon appeared,—Works, unquestionably, of one of the greatest minds that have ever thrown glory on our intellectual nature,—impressive often by the soundness of their views,—still more impressive, perhaps, by the bold and original imagery, in which he loved to embody his speculations even on subjects the most abstract, and which, unphilosophic and unfriendly to accuracy of thought, as language so figurative may now seem,

was far better suited to attract interest, in that age, than a style of greater simplicity and precision. It is possible, indeed, from the union of the many circumstances which I have stated as favourable at once to the diffusion of knowledge, and to a spirit of more daring search, that the better physics which followed might have been, without the previous formal didactic expression, in a better logic, of the principles that should guide inquiry. But the better logic was at least the precursor in time of the increasing zeal and activity with which experimental science was speedily cultivated: and as, where many causes concur, the separate influence of which it is difficult to trace, and one presents itself prominently to view, the mind is apt to pass silently over the others, in its reference of the mixed effect to this one prominent cause, it is not wonderful that the industrious observers and experimenters who followed Bacon, should often have ascribed to him effects, which were rather subsequent to his Works than flowed from them; and that, when his reputation as the founder of Experimental Science had been thus established by common consent, there should be transmitted, together with the admiration which was justly due to him, a tendency of each successive race of hereditary admirers, to ascribe to him, as if they were truly his own, those juster notions of the objects and nature of physical inquiry, which the progress of physical inquiry itself had evolved.

In this way, as I conceive, what philosophers now profess to regard as their ultimate object of search, in the

Inductive Science of which they give the glory to BACON, is not exactly the ultimate object which BACON himself had in view. The notions which now prevail, or at least the notions which are now professed, of the limits of the faculties of the inquiring mind in its endeavours to ascertain the laws of the Universe, darkened as these notions are by false conceptions of the real import of the relation of Cause and Effect, are yet more humble in the expression, and therefore verbally less remote from truth, than those which are delivered in the original system with which the philosophers who use them suppose them to correspond. The varieties of that "efficiency" of which they are in the habit of speaking, are indeed, in their relation to the various phenomena of Nature, very like the "forms" of which BACON speaks: but there is this difference, in language at least, whatever little difference there may perhaps be in the practical influence of the language, that the efficiency is acknowledged by modern Philosophers to be in every case beyond our power of discovery; while the Master whom they profess implicitly to follow, seems to deride "the received and inveterate opinion, that the inquisition of man is not competent to find out essential forms or true differences," and asserts, that "the invention of forms is of all other parts of knowledge the worthiest to be sought."

The evil, then, which I have supposed to flow from the mere distinction that is made of efficiency from the physical cause, must flow equally, or still more, from the doctrine of BACON as to the Essential Forms, on which he

believed all the changes of things to depend, and the invention or discovery of which he regarded as the worthiest object of the mind. Both doctrines produce or favour a tendency to the too extensive application of a general truth; the chief difference being, that the one leads to this species of error, more especially with respect to new situations of the same substances, and the other more especially to new substances in a similar situation. In believing power or efficiency to be something which exists *in* a substance, we are very naturally led, as I have shown, to suppose the power to exist wherever the substance exists, in circumstances unobserved, as much as in circumstances observed: in believing that all the changes in Nature depend on certain "forms" or conditions, common to all the substances which exhibit these phenomena, ("*differentias veras, sive naturas naturantes, sive fontes emanationis,*") conditions, which we have only to superinduce in other substances, to be certain of evolving from them also similar phenomena, we take for granted, in this rash belief, that what is true of many substances in certain circumstances, must be true of all substances in these circumstances. The *form*, to use Bacon's phrase, may be truly a *form*, with respect to all the bodies examined by us; that is to say, we may have found, in a thousand bodies, that, when a certain change was produced in them, they exhibited afterwards another appearance in uniform and immediate sequence, and, as immediately and uniformly, ceased to exhibit this appearance, when the former condition was removed: yet, after

a thousand trials of a thousand substances, without a single failure of the analogous effect, it does not follow, that the next substance, in which we are to succeed in producing the same condition, will exhibit afterwards the same result; and it may happen, that, in it, that very phenomenon, which has never been known by us to be exhibited by any other body without that antecedent condition, may be the result of other circumstances, which in every other body, before observed by us, were powerless to produce it.

It is this mistake as to the universality of certain forms or essential principles, corresponding with all the variety of changes in the phenomena of the Universe, and necessarily similar wherever the changes are similar,—a mistake which was very naturally accompanied with the belief, that, by the communication of the supposed form, any property might be superinduced on any substance,—that appears to me to constitute the great error of Lord Bacon's general view of physical science, and to have been that which seduced him into some of those extravagant anticipations of an almost unlimited empire of man over nature, in which his magnificent fancy delighted to indulge. That all philosophy must begin in observation;—that from the observation of many particulars, we may rise to general propositions (*axiomata*), expressive of their circumstances of agreement;—and that these general truths are again applicable in our reasonings downward to the whole number of particulars comprehended in them;—all this is sound philosophy, and in many of the

aphorisms of the First Book of the Novum Organum, is stated by the great logician in language as forcible as the doctrine itself is physically just. But when, from the mere "Interpretation of Nature," he passes, in the Second Book, to that sovereignty (*Regnum hominis*), which he supposes the Inductive System practically to confer, he does not seem to be aware, as the more speculative aphorisms might have led us to expect, that it is only to the very particulars before comprehended in our observation,—that is to say, to the very substances before observed, in the very circumstances before observed,—that we can with confidence apply the general axiom; and that we cannot therefore convert any axiom, however general, into an universal axiom, so as to arrive at the knowledge of an universal or essential *form*, because we never can be sure that an untried substance, with the same conditions superinduced, and in circumstances the most exactly similar to those in which other substances have been tried by us, will exhibit a result like that which they exhibited.

To those who have a clear notion of the relation of Cause and Effect, it may be almost superfluous to repeat that there are no "forms," in the wide sense which Lord Bacon gives to that word, as one common operative principle of all changes that are exactly similar. The powers, properties, qualities, of a substance, do not depend on any thing *in* a substance. They are truly the substance itself, considered in relation to certain other substances, and nothing more. A number of substances

may agree in one respect, that they are all antecedents of a similar change in some other substance: but it does not therefore follow, that they are to have any other agreement than in that very consequent change itself. We never therefore can arrive at any thing which is so truly commensurable or co-extensive with any species of change, that, wherever it is, a certain change may be expected in every substance; for what we have found to be true of a thousand substances in a certain situation, may, as I before said, be found to be wholly inapplicable to the next substance which we place in a situation the most exactly similar.

If I were to endeavour to shew the radical error of Bacon's system, and its difference from that simple view of nature which appears to me to be the only just view of it, I could not select an example more striking than he has himself offered, in the inquiry which he has recommended and begun into *the form of gravity*. In this, as in every other inquiry of the same kind, he proceeds on the belief, that, in addition to the common circumstance in which phenomena, merely as phenomena, agree, there must be some other common circumstance from which that common circumstance itself is uniformly derived; so truly co-extensive with it, that wherever it is, the other is, and wherever it is not, the other is not. All the "Comparisons" and "Exclusions," however, which all the followers of Lord Bacon could for ages propose and execute, with the nicest attention to the infinitesimal distinctions of "Instances" which the Novum Organum

has pointed out, would be insufficient to produce a *form* of that mere tendency to reciprocal approach, which we term Gravitation, in masses or their elementary atoms: and the reason of the impossibility of finding such a Form, is, that there is truly no Form or general circumstance of agreement, but that which is implied in the simple fact itself. The planets tend to the sun;—the bodies on our Earth tend to its centre;—a stone, a piece of gold, a feather, the air, what we term heavy and what we term light, all press in some measure on the masses below them. In this one respect they agree; but this one respect may be the only one in which they agree; and if we were to strive to think of some principle, from which they derived, and with the continuance of which alone they continued to exhibit their gravitating tendency, we might indeed give a new form of words to the simple fact of the reciprocal tendency of bodies to each other, but we could do nothing more than repeat in new words the very observation which we had previously made.

The common circumstance of all gravitating substances is that they gravitate; to say that they gravitate *because* they have a gravitating power, or a principle of gravitation, is not to give a reason, but to state a fact; and the "form," if that word is still to be retained, is nothing more than the simple tendency itself, which the common circumstance of gravitation shews. The real object of every sage physical inquiry, whatever the phenomena may be that have engaged the attention, is to ascertain what changes are exhibited by substances, and what are

the circumstances in which the changes take place. For directing us, however, to particular observations and experiments, we avail ourselves of the great principle of analogy; but, though it is our great director, we must not rely on it, on that account, as if it were capable, even after the widest induction, of making us acquainted with the "essential differences" of things. The resemblances in other respects, which we frequently discover in the antecedents of similar consequents, may indeed justify a *presumption* that other substances, in which the same resemblances are found, will also be found to be productive of the same changes; but they never can afford us more than a presumption, which may or may not be verified by subsequent observation. An implicit follower of Lord Bacon may hope to become a master of the forms of qualities, and thus to be able to superinduce them at pleasure on any substance; a believer in efficiency, as an operating principle inherent in a particular antecedent, may trust, that in whatever new circumstances the antecedent can be placed by him, he will be able to produce with it the effect which he produced before; but he who has juster views of the philosophy of Cause and Effect, will never venture on so proud an anticipation: he will consider every physical truth to be in practice strictly applicable only to the substances before observed, in the situations before observed, and every thing beyond to be only conjectural; though in estimating the probability of the conjecture, he will conceive it to be greater or less, as the

circumstances of analogy are more or fewer, and will permit them accordingly to guide his inquiry, while he refuses to permit them to guide his belief.

## Note M. p. 302.

The mistake of Dr. Reid in considering Day and Night as one simple sequence, is an instance of a species of inaccuracy, perhaps the most common in the present advanced state of science, and the least easy to be prevented by any rules which philosophic criticism can prescribe. The generalizations of language are already made for us before we have ourselves begun to generalize; and our mind receives the abstract phrases without any definite analysis, almost as readily as it receives and adopts the simple names of persons and things. The separate co-existing phenomena, and the separate sequences of a long succession of events, which it has been found convenient to comprehend in a single word, are hence, from the constant use of that single word, regarded by the mind almost in the same manner as if they were only one phenomenon, or one event: and though it is unquestionably of the greatest advantage to be able thus briefly to express a process which consists of many sequences of phenomena, the verbal abbreviation is not on that account less dangerous to our accuracy of reasoning, by leading us often to consider as common to all the parts of a long and complicated

process, the circumstances which belong only to particular parts of it.

The most general form of this fallacy in the language which we use, is when we ascribe to the prior sequences of a long train that ultimate result, which belongs only to the last sequence of the order: but, even throughout the whole order, it leads us, by a similar mixture and confusion of the parts, to suppose a physical relation in many cases where there is none, and to neglect it as often where it truly is. There is hence a cause of perpetual retardation to the progress of science, existing in the circumstances of the progress itself; the very refinements of language to which it necessarily gives rise, seducing us insensibly into an error of exactly the same kind as that which is produced more obviously by the rude and scanty observations with which science begins. In both cases, though from very different causes, we pass frequently from the most striking phenomena to other striking phenomena, without regarding the phenomena which intervene; because these are, in the one case, not observed by us at all, and, in the other case, form a forgotten or neglected part of that whole, which our general term expresses. There is scarcely a single controversy in the history of any one of the departments of physics in which the confusion has not, in a great measure, arisen from some very simple error of this kind, by which that which was true, of a part of a process, was false, when asserted of a whole process: and indeed we find the contest to be not unfrequently an opposition of

errors rather than of truth and error; the opponents often agreeing in every thing else, and differing only in the parts of the process, which they have falsely considered as representing the whole.

A habit of constant and quick analysis of every complex word which we use, or read, or hear, is, in effect, to borrow the very striking phrase which has been applied to logic in general, like the acquisition by the mind of *a new organ.* The generalizations of language are thus made to answer the only useful purposes for which they were devised; that of conciseness in our own silent reflections and in our communications to others, and that of an artificial memory, suggesting to us by association the phenomena comprehended in them. To have thus completely under our command every term of the daily nomenclature which we employ, however slightly such a power might be estimated by superficial thinkers, would be indeed to have a dominion of no common kind: for it would be to have the mastery of that which subjects in some degree even the most philosophic understandings, and which enslaves and fetters, with innumerable prejudices, the less discriminating multitudes of our race.

THE END.

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